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RELATING TO

QUADRUPEDS, BIRDS, REPTILES, FISHES, ANNELIDES,
INSECTS, WORMS, ZOOPHYTES, &c.

THEIR HABITS, FOOD, RETREATS, OCCASIONAL APPEARANCE,
MIGRATIONS, NESTS AND YOUNG.

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THE INSECT HUNTERS,

BY EDWARD NEWMAN, F.L.S., F.Z.S.

LATE PRESIDENT OF THE ENTOMOLOGICAL SOCIETY.

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LONDON: JOHN VAN VOORST, 1, PATERNOSTER ROW.

Observations on Squirrels. By William Henry Slaney, Esq.

Many persons are impressed with the belief that it is habitual to these active and amusing little animals to form nests or drays, and therein to lay up in a dormant state, or nearly so, during the greater part of the winter months, and that they have also the forethought of collecting, before the frosts and snows set in, a hoard of provisions, to which they can in an emergency resort until the weather becomes more open and they feel inclined to shake off their winter's sleep and sally forth for food, and even should a repetition of severe weather drive them back to hybernate still longer in their former retreats. This is a very general opinion with many persons, but I believe it to be totally unfounded; at least I can speak with confidence that it is not a general rule, and that in this vicinity hybernation never takes place, but that the squirrels are about at every period of the year. In the immediate neighbourhood are great numbers of remarkably fine beech trees, and opposite to the windows where I am writing there are groups and single beech trees, dispersed about the lawn and adjacent walks, of a large size, some measuring more than 300 feet in circumference round the extreme ends of the branches, and upwards of a hundred feet in height, and which, when in full leaf, have a most splendid appearance. These noble trees in general bear an immense quantity of beech-masts, or "nuts," as they are sometimes called, and which, towards the end of summer, from the heat of the sun, split open, and the kernels or seeds fall to the ground, though an endless number still remain on the trees during the winter months, and form, with those under the trees, a most attractive food for many kinds of birds, as well as squirrels and other animals, and amongst the birds none are more fond of this sweet and fattening food than the wild wood pigeon, of which large flocks, containing many hundreds in each, arrive here in the winter months, in addition to those that remain and breed here during the summer; and in such numbers do they resort to feed on the beech-masts, that during a few months of the winter of 1858 I killed upwards of a hundred couples of these most excellent birds for culinary purposes; and this year, though absent during much of the severe weather, and most favourable time for obtaining them, I have killed more than seventy-three couples.

While waiting underneath the trees for the arrival of the pigeons, concealed in a stalking-house or little cabin, and in the hardest weather, when frost is most severe and snow often laying on the ground, it is a very common occurrence to see three or four or more squirrels running along the branches of the trees above, and often descending to the ground to seek for the fallen masts; and if they chanced to see or suspected any one was concealed within the cabin, they immediately decamped, running up the trunks of the trees, and began chattering and stamping with their little feet in a most angry manner at the audacity of any one daring to intrude on their domain. In the shrubbery also, nearer to the house, every day during the severest winter months, as well as at other times, numbers of squirrels may be seen running about, unmindful of the frost and snow, active and lively as ever, and they will often come close to the windows, on the grass-plot beneath, and look up as if asking to be fed, and then begin busily searching about in the snow; nor do they hesitate to run up to the window-sills and get into the trays placed there for the little birds, and filled with bird-seed, pieces of bread, mashed potatoes, Spanish chesnuts and other food, as well as a few nuts put for the squirrels especially; but when these latter are consumed they take to the other sorts of food most freely, driving all the poor birds away until they have finished their own individual repast; and most amusing it is when two or more squirrels meet to dispute which shall have the tray to itself.

During the late inclement month of January numbers of these little active animals might have been seen scratching vigorously amongst the moss and grass for the beech-masts and other food blown there by the high winds and concealed beneath; and I have never observed that they resorted to any hoard or store of food which had been previously laid up in any quantity for winter consumption, as some suppose is the case, though no doubt they do conceal and deposit in certain hiding-places a few nuts and other dainties, nor have I ever noticed any of the winter nests or drays they are said to hybernate in, though in the spring many of these drays may be seen, in which the squirrels breed and have their young.

There is a variety here, which I have never met with or heard of elsewhere, having buff or straw-coloured tails, which give them a curious appearance while whisking them about as they sit on the ground or run round the trunks of the trees, peeping cautiously at the persons watching their motions. There seems to be no difference in their habits, and they mix together promiscuously. Mr. Jesse, it is true, states that he has heard of squirrels with white or gray tails; but these are yellow or straw-coloured, without any mixture of white or gray.

I once detected a squirrel in the act of carrying off a mushroom as a dainty morsel, and was told afterwards by a keeper that he had often seen them do so at a wood some distance from this place. In addition to the dainty mushroom I have known my little favourites frequently, and when other food was plentiful, to scale the garden-walls and steal the young apricots, which they carried off as choice morsels to their haunts amidst the beech and other trees.

I have heard it stated that squirrels will destroy birds' eggs, and even kill and eat the young ones, and it is mentioned as a well-known fact by Mr. Jesse; but as to their habitually devouring young birds or the eggs of birds I have the greatest doubt. Perhaps in the exuberance of its spirits in the spring time the little squirrel may indulge itself in taking a peep into some poor bird's nest it may chance to meet with, and by accident, possibly, or from curiosity, it might break an egg, just to ascertain what it is like; but, except in particular situations, or where there are young fir and larch plantations coming up, or in the immediate vicinity of orchards, or where the poor squirrel has not room and verge enough to live in, I believe a more harmless, active and amusing little animal does not exist, when living amidst its natural wild and woodland scenery. In consequence of being protected here, and having an ample supply of food all the year through, with range enough amongst almost every variety of tree, I am happy in being able to state that no day passes, winter or summer, but numbers of these amusing, merry and happy little fellows may be seen chasing one another about, and taking astonishing leaps from tree to tree, hardly ever missing their footing while doing so, or may be met with beneath the trees and in the walks, either running along in pursuit of each other, or busily engaged in searching amongst the moss for masts and nuts, looking up from time to time to see if any one is likely to disturb them, and ever and anon flourishing their upcurled tails over their heads, like banners of defiance to all intruders.

In conclusion, I may reiterate that I cannot credit the statement, so implicitly believed by many, as to the dormant nature of squirrels during the winter months; for, as before stated, at every period of the year, let the weather be what it may, however severe,—while snow still lies on the ground and the frost is intense, and other animals appear starved and miserable,—I have never missed seeing the little squirrels as actively and busily running about as at other more favourable times, though evidently often pressed for food by their coming so fearlessly to the window-sills and taking possession of the bird-trays, and placing themselves therein with evident delight, and by their allowing a spectator to approach near enough to them to watch their merry pranks while driving away their less resolute and pugnacious companions, obliging them to wait beneath for any godsend that may chance to fall to their lot from the master of the tray above.

William Henry Slaney.

Hatton Hall, February 20, 1861.

[This fact in the life-history of the squirrel is not quite new, as the following queries by Rusticus of Godalming will show. "'They sleep a great part of the winter, like the alpine mouse, and very soundely, for I have seene when no noise of hunters could awake them with al their cries, beating their nests on the outside, and shooting bolts and arrowes thorough it, vntil it were pulled assunder, wherein many times they are found killed before they be awaked.' The preceding paragraph, taken from Topsell's 'History of Four-footed Beasts,' records a faith in the torpidity of the squirrel, which, from the time of Aristotle, has never been disturbed. It is, therefore, both of venerable antiquity and of universal acceptation. Now I am sorely perplexed whether to give you an account of this torpidity on the authority of authors, or to skip it altogether, or to attack it tooth and nail. I will take a middle course, and recite under the fashion of queries a few doubts that have occurred to me. We commonly see squirrels every month in the year—on the shortest day equally with the longest; when, therefore, does torpidity begin, and when does it end? Again, the hoarding of provender; that fact is patent: what is the object?—is it devoured during torpidity? Are not these hoards rather an evidence that during the winter the squirrels are not only awake, but hungry? Again squirrels migrate: in this island we see it in a small degree, and rather as an exception than a rule; but on the continents of Europe and America it is the rule. Vast multitudes move southwards at the approach of winter, northwards at the approach of summer; this is perfectly notorious: why should not squirrels become torpid in New York and Massachusetts?—why should they enter Florida before assuming torpidity?—why should the squirrels of Russia pass the Balkan before they doze? I believe a squirrel may sleep more soundly on a cold frosty night than a house-dog stretched before a comfortable fire, but I have yet to learn the exact point where sleep ends and torpidity begins. If torpidity means a sleep enduring for weeks, or even days, I still doubt whether there is positive evidence of it among our squirrels." —*Chambers' Edinburgh Journal*, No. 329].

Hints which may be useful to Egg Collectors.

By Stephen Stone, Esq.

It is to be regretted that while in Mr. Newton's admirable paper on collecting and preserving eggs (Zool. 7189) the student is fully instructed how to proceed in order to avoid breakage in blowing, packing, and in the transmission of specimens from one correspondent to another, or from one place to another, no instructions are given for repairing fractures when they unfortunately occur. Now, notwithstanding all the care that may be taken, and in spite of every precaution, accidents will at times happen, and such fragile objects as eggs will sustain fractures, which, if not attended to or repaired must at all times endanger their safety on being handled, and may lead to their utter destruction; and as there are eggs which, if destroyed, it would be next to, if not wholly, impossible to replace, it is of importance that such an occurrence should be guarded against by all possible means. Patches of paper applied externally over a fracture have an unsightly appearance, and, moreover, conceal a portion of the markings which characterize the egg, except in the case of such as are of one uniform colour; this method of repairing a fractured shell is therefore objectionable. The plan I hit upon when I began to collect, and which I find to answer the purpose well, is this: When an egg I especially wish to preserve has become badly fractured I pour in at the aperture through which the contents were withdrawn a small quantity of a moderately strong solution of gum arabic; this, by turning the egg about for a few seconds, is made to pass over the entire inner surface of the shell, so as to leave thereon a thin coating of adhesive matter; if more than suffices for that purpose has been introduced the overplus is returned through the aperture; a quantity of finely-powdered chalk is then poured in, and the egg turned about as before, when the chalk unites with the gum and forms a crust upon the shell, which becomes, when dry, as hard and firm as the shell itself, uniting the fractured portions and rendering the specimen almost as safe to handle as it was before it became injured, while by this process no unsightly apearances are caused on the outside. Should the fractures extend only over a portion of the shell, it will not, of course, be necessary to form a crust upon the entire surface, but only upon, and immediately around, the injured part. If the crust first formed should not be considered sufficiently strong, it may, after allowing it time to dry, be strengthened by repeating the process described above.

If portions of the shell have become detached, the pieces must first be secured in their proper places by the outward application of gummed paper, which, after the formation of the internal crust, may be removed, but not until it has become dry and firm, and even then care must be taken to damp the paper but very slightly, for if too much moisture be applied it will find its way through the cracks in the shell, and by relaxing the crust undo all you have done.

If any of the detached pieces have been destroyed or are lost, pieces of paper corresponding in shape with the various openings, but of larger size, must be cut, and slits of some depth and pretty close together made with a pair of scissors all round the edges (see Mr. Newton's paper, fig. 21, Zool. 7198), so that the proper degree of convexity may be given to each piece according as that part of the shell to which it is to be applied is more or less convex. The pieces must then be introduced into the openings they are intended to fill up, and gummed on to the inside; a bit of stick or a piece of wire introduced through the aperture originally made in the shell for the purpose of emptying it of its contents will materially assist in the operation, which a little practice will enable the operator to perform without much difficulty. Then when the inner crust has been formed and has become dry, pounded chalk mixed with a solution of gum arabic, so as to be of about the same consistence as soft mortar, should be spread evenly over the paper to the thickness of the shell; this will tend greatly to strengthen the injured specimen. If the operator chooses to make the composition resemble the real shell it can be done by applying the requisite colouring matter. I do not anticipate any objection to a restoration of the kind on the ground that it may be made so perfectly as to enable a dishonest person to practise imposition in the sale or exchange of a specimen so treated, for although in the cabinet drawer or at a distance it may look very well, a close inspection will enable any one to see clearly enough what has been done, however ingeniously the restoration may have been effected.

In one of my birds' nesting excursions, an excursion which took place soon after I began to collect, I found a nest containing one egg which I could not make out. In the hope of being able to obtain an additional number of eggs, as well as the opportunity of ascertaining what description of bird it was to which the nest belonged, I allowed it to remain undisturbed, but in the course of the night following the egg was destroyed by vermin of some kind (I believe the depredator to have been a field mouse); I therefore lost my specimen and with it all chance of identifying the bird that produced it. This was a lesson I did not forget, but by which I was resolved to profit, so on my next excursion I took care to provide myself before starting, and take with me a number of common birds' eggs of various sizes and kinds, and whenever I chanced to meet with the nest of a bird at all rare that had begun to lay, but had not produced the full number, I at once made sure of the specimen or specimens the nest contained, substituting for them some of the common ones I had brought with me which most nearly approached them in size and colour; thus, though all the eggs the bird had laid had been removed, she was not driven to abandon the nest, but induced to go on laying, so that there was every probability of one's being able to obtain an additional number of specimens on a future visit, and also of having the opportunity of clearing up any doubt about the species, if doubt upon the point existed. This plan succeeded, and all went on well for a time, but having upon one occasion placed the egg of a whitethroat in a reed warbler's nest as a substitute for the one it previously contained, and which I took possession of, it was destroyed the following night, like the one already alluded to, by vermin, the consequence of which was that the bird abandoned the spot without laying again. I now substituted models cut in chalk or freestone, and coloured for real eggs, and these I have found to succeed admirably, as the bird will readily lay to them and there is no danger of their being destroyed or even removed by vermin.

The nests of some species are situated in holes, from which it is often difficult, and in some cases impossible, to obtain the eggs without the aid of an instrument of some kind; those I use are very simple in construction, and I find them very effective. I will endeavour to explain how they are made: I procure a piece of wire, of the size and length I think necessary, and taking hold of one end with a pair of pliers, I coil it once round the point, which should be so small that the diameter of the first coil may not exceed a quarter of an inch, if the instrument is intended for small eggs; I then, by shifting the pliers as occasion requires, coil the wire round again with a wider sweep than before, giving it a spiral direction, and then again with a still wider sweep, then twice or thrice with a width of sweep about the same as the last; thus the bowl, as it may be termed, of your instrument is formed, while the uncoiled portion of the wire, which may be of any desired length, serves for the handle. For small eggs, such as those of the wryneck, nuthatch, titmouse, &c., wire of the size of a common knitting needle will be proper; for large ones, such as those of the tawny and barn owl, &c., much larger and stiffer wire must be used; and for those of an intermediate size, as the starlings, green woodpeckers, &c., an intermediate sized wire will be best. The dimensions of the bowl of your instrument must of course be proportioned to the size of the egg it is intended for.

The advantages attending instruments of this description are, that you can make them without the least difficulty yourself; they can be made in a few seconds, and of any size, and they can easily be bent in any direction, so as to be effective under all circumstances, or let the course of the hole in which you are about to introduce one be what it may; thus, if it be directly downward, the direction from the mouth to the bottom of the bowl, as it may be termed, of your instrument should be, and by a bend you may in a moment make it become, almost parallel with the handle, while if the hole should take a horizontal direction the bowl must be made to form a right angle or nearly so with the handle, which can also be effected in an instant. If the handle should not be found long enough to reach the bottom of a hole, a piece of stick of the required length may be attached thereto by means of a bit of string, a supply of which, with a knife, you would do well always to carry with you.

These instruments are not only useful in abstracting eggs from holes in trees or walls, but, lashed to a stiff rod or slender pole of sufficient length, they are of use in obtaining specimens from nests of birds of aquatic habits situated among flags, &c., growing in rivers, lakes or ponds, which it might be difficult to obtain in any other way. I invariably adopt this plan in taking the eggs of the little grebe, moorhen, coot and some other species, unless the nest should chance to be so near the margin as to be within reach of one's arm.

Occasionally it happens that nests are situated in pines and other trees, the lower part of whose trunks, to the height, it may be, of twenty or thirty feet, are destitute of limbs. Once up to the limbs the ascent may be easy enough, but the difficulty lies in reaching them, for the trunk may be too large in size, and too slippery withal, to allow you to climb up it: to meet the difficulty I provide myself with a strong cord or light rope, not precisely the kind of thing by means of which Romeo mounted up to Juliet's chamber,—"cords made like a tackled stair,"—but simply a rope in which I form a series of loops: each loop should be so large as to allow you easily to "put your foot into it." They should be about two feet apart, and in number sufficient to enable you to attain the object you have in view, at whatever height that may happen to be. The unlooped portion of the rope must be long enough to reach from the limb or branch it is passed over, to the foot of the tree, where it must be secured by some means, unless you chance to have an assistant with you who can hold it while you ascend and descend. The way I pass the rope over the branch—which, in order that one may not be swung about, or go whirling round in a manner the very reverse of agreeable, I always take care shall be at a point close to its junction with the trunk—is this: I attach a piece of string of sufficient length to the end of the rope, then tie a stone or some weighty object securely at the end of the string; the stone being thrown over the branch of course carries the string with it, and thus the rope is drawn over. The rope being secured the ascent may be made.

In conclusion I may observe, with reference to the tawny owl (*Strix aluco*), that although it may generally, as stated in Mr. Newman's most useful paper on the nesting of British Birds (Zool. 7397), be found to make use of the deserted nest of a crow, it in this neighbourhood appears to give the preference to the nests of jackdaws situated in hollow trees, or to hollows in trees unoccupied by nests, laying its eggs upon the decayed wood. I have known three sets of eggs, the produce of one pair of birds in one season, removed from hollow trees, the birds selecting a fresh tree each time. My first specimens were fished up, by means of one of the instruments I have described in this paper, from a jackdaw's nest situated at the bottom of a hole upwards of four feet deep, which took a slanting direction in the decayed limb of an aged elm. These facts make me think it probable that in all neighbourhoods in which hollow trees abound—as they happen to do here, though I question whether such a circumstance is of frequent occurrence in this money-making age, landholders generally taking care to put all the timber growing on their estates into their pockets before it has the chance of becoming hollow — the tawny owl will be found more frequently to resort to them for the purpose of incubation than to the deserted nests of crows, magpies or rooks, in consequence of the former situations affording a much greater degree of shelter, if not of security, than the latter.

S. Stone.

Additions to Mr. Crotch's Notes on the Fauna of Shetland (Zool. 7337).—I perceive, with regret, that in assisting Mr. Crotch to draw up his list of the birds of Shetland, I accidentally omitted to mention several of the following species. The remainder were observed subsequently to Mr. Crotch's departure from these islands.

Phœnicura ruticilla. Last October I saw a fine male of this species in the garden at Halligarth, immediately after a heavy gale from the S.W.

Sylvia hortensis. Occasionally seen in autumn.

Motacilla alba. Several years ago I observed a pair near Lerwick.

Fringilla carduelis. Rarely seen.

F. canescens. A few small flocks, consisting entirely of males, appeared at intervals during the month of October. Some betook themselves to the hills, while others seemed to prefer the garden at Halligarth, where, for many days afterwards, they continued to exhibit their well-known partiality to the alder. I shot three, all of which were distinctly tinged with rose-colour upon the breast. The stomachs contained seeds, a few minute insects, and a quantity of fine gravel. F. canescens may roughly be said to differ from F. linaria in the following particulars: it is nearly an inch longer; the breast is lighter in colour; the rump is white, or nearly so; the bill is larger, and is dull yellow instead of light brown.

Emberiza schœniclus. I saw one last week feeding with a small flock of common buntings.

Rallus aquaticus. This bird was unknown as a visitor to Shetland until it was observed here last November by my brother-in-law, Mr. Thomas Edmondston. During the heavy snow which prevailed at that time, the bird obtained the greater part of its food among dead leaves, brushing them away with its wings, and laying bare the ground beneath.

Cygnus Bewickii visits these islands regularly in spring and autumn, resting upon the lochs, and seldom remaining many hours. Two were shot from a small flock last week, during a strong southerly gale, but were so exhausted that when the first was killed the survivors merely waded a short distance further in the shallow water, remaining there until the second shot was fired, when they at length took wing and wearily resumed their northward flight. The cry of this species very much resembles the trumpet-like note of the domestic goose.

Anas nigra. A female specimen was obtained by me last November. The olive-green legs and feet enabled me immediately to recognise the species. The stomach contained nothing but two small white stones.

Larus Sabini. I have met with but one example of this rare bird. It sailed round me repeatedly as I stood loading my gun, thus affording me an excellent opportunity of observing its plumage and general appearance. Its black feet first attracted my attention. Unfortunately it was long out of shot before I was ready to fire.

Larus capistratus has been shot here upon several occasions, one of which has been recorded by Yarrell.

The supposed example of L. Rossii mentioned by Mr. Crotch was shot by me seven years ago, but, under the impression that it was merely a variety of some other species, I foolishly suffered it to be lost. However, I made a few rough observations upon the singularity of its plumage, but having left my note-books in England I am at present unable to throw further light upon the subject.—*Henry L. Saxby; Balta Sound, Shetland, February* 27, 1861.

Rare Birds observed during the late Severe Weather.—If your correspondents from all parts of the country could be induced to send notices of such rarities as have appeared in their several districts, a vast amount of excellent information would be obtained. In my own locality a few rare visitants appeared. During the severity of the frost about Christmas, a fine flock of hoopers came to the Trent, and settled for the night upon the ice, but next morning they departed. Their grand trumpet-like notes could be heard at an immense distance. Another rather rare visitant—the tufted duck—came to the Trent, and, so long as some parts of the river were free of ice, continued with us. This duck only appears here in hard winters. Small flocks of from two to eight or nine came to the Trent, continued for some weeks, and were almost the only living beings about the river. It is somewhat singular that these flocks consist almost entirely of male birds; a female rarely occurs. Their deeply-marked plumage of black and white renders them very pretty objects as they ride at anchor upon the bosom of the water, or dive, as they occasionally do, and then reappear. Near the village of Swarkeston a mountain finch was shot out of a little flock. This bird is an uncommon visitant here, and usually occurs but in very severe winters.—*John Joseph Briggs (in the* '*Field*'*)*; *King's Newton, Derbyshire.*

Kestrel Nesting in a Hollow Tree.—I was somewhat surprised that Mr. Newman in his "Collected Observations on the Nests and Eggs of British Birds," (Zool. 7396), when describing the situation of the nest of the kestrel should notice as unusual its being built in a hollow pollard oak, as in one of the only instances I can call to mind of finding the nest it was similarly situated, that is, in a hollow stump. The tree was in the vicinity of Bognor, and some boys had just succeeded in climbing up and abstracting the eggs previous to our arriving at the spot, and told us that the two owls (as they called them, on account of their feathered legs) had been flying round the tree while they were engaged in their work of spoliation. We purchased the eggs from them, and they proved to be those of the kestrel.—*John Henry Belfrage*; 7, *New Inn, Strand, March* 5, 1861.

Occurrence of the Buzzard near Swansea.—A buzzard was caught in a rabbit trap on the 10th inst. at Bryn-awel in this neighbourhood. It is a female specimen, and measures from the tip of the beak to the end of the tail, 22 inches; across the wings, 4 feet 1 inch; and weighs 2lbs. 6¼ ounces.—*D. Williams*; 56, *Wind Street, Swansea, February* 14, 1861.

Habits of the Swallowtailed Kite (Falco furcatus) *in Guatemala.*—Proceeding on our journey, and passing over the brow of a hill which rose considerably above those surrounding us, we suddenly saw, on the slope beneath us, a large number of swallow-tailed kites gliding backwards and forwards through the air, directly over the road which we were pursuing. They were near the ground, many of them within ten or twelve yards of it, and numbered from a hundred and fifty to twice that quantity. They were closely packed, not one straggling for a moment from the rest, and reminded one of our English swifts (*Cypselus apus*) as they congregate in flight round an old and lofty edifice. My companion was surprised, no less than myself, to find so many of these birds in company; for, according to the experience of the Coban hunters, they generally go in pairs, although three or four may be occasionally met with together. A few yards of precipitous descent brought us immediately under the birds and into a swarm of bees upon which they were feeding. The swarm was slowly skirting the hill in compact order, its persecutors sweeping through and through it, with wings extended, and their scissor-like tails widely opened. Their flight was not at all rapid, but steady and powerful, no movement of the wings being perceptible. Our intrusion upon their feeding-ground did not cause them the slightest alarm; not even when my companion's delight at the novelty of the sight we were witnessing began to manifest itself in hints and signs, which I strove in vain to quell, did they seem to take the slightest notice of us.—*Robert Owen, in* '*Ibis,*' ii. 241.

Occurrence of the Nest of the Redwing (Turdus iliacus) *in North Wales.*—About the middle of May, 1855, I was so fortunate as to discover a redwing's nest in a garden at Maintwrog, North Wales. It was placed in the heart of a large bay tree, at about eight feet from the ground, and was composed outwardly of moss, coarse roots, twigs, dead weeds, and a few shreds of old muslin; the lining consisted of fine grass, spread upon a thick, smooth layer of mud. It contained four eggs, very much resembling those of a blackbird, but rather smaller, of a pale greenish blue colour, minutely speckled with two shades of orange-brown and reddish gray. In form and construction the nest was somewhat peculiar, being far neater than that of a blackbird, though much heavier and clumsier than that of a song thrush. I repeatedly saw the bird upon the eggs, and so also did several of my friends, so that there can be no doubt as to its species. I sent one of the eggs to the late Mr. Yarrell, who expressed much delight at the acquisition of a British specimen.—*Henry L. Saxby; Balta Sound, Shetland.*

Thrush Singing by Moonlight.—On Friday night, the 22nd of February, at ten minutes before ten, I was surprised to hear a thrush in full song. It was quite calm, after two days of tremendous tempest,—the moon had just shone out in splendour, after being obscured by dark clouds; whether this sweet bird had mistaken this sudden light for the early dawn of day no one can tell, but in the whole course of my life I never met with an instance before so late at night and in winter. At midsummer, and at full moon, I have heard the blackcap and cuckoo and several minor songsters; but even at such a time I never heard a thrush sing after ten o'clock.—*H. W. Newman; Cheltenham.*

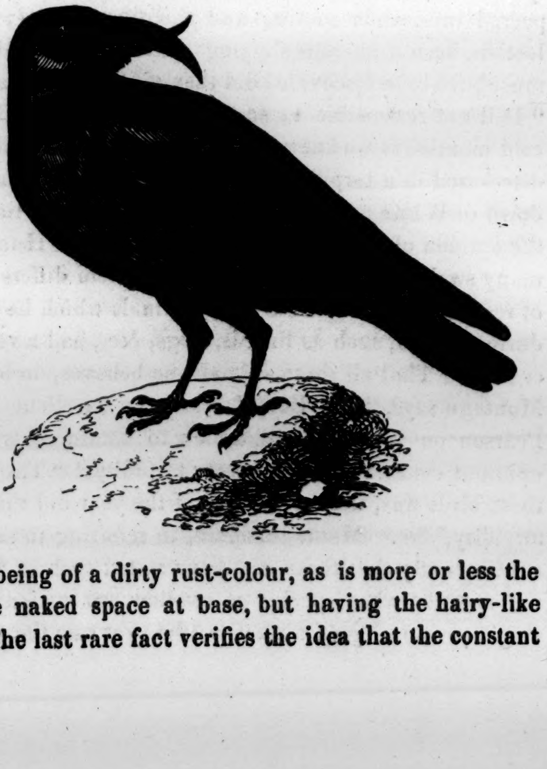
Blackbirds Singing in the Night.—A few days after that unusually severe hurricane which visited this and other parts of England, at the end of last month, a very unusual phenomenon in Natural History was observed here, which perhaps may interest some of the readers of the 'Zoologist,' and admit of a satisfactory explanation. I happened to be up rather late at night, and heard a blackbird singing as joyously and vigorously as if in broad daylight. This was between twelve and one o'clock in the morning. The night was moonlight and calm, with light fleecy clouds. The same fact was mentioned to me by the village policeman, who, when on his beat that night, was, as he told me, astonished to hear so many birds singing in all directions. With the exception of nightingales and a few other birds, this is not usual even in the summer at night, but during the month of February seems to be a very extraordinary occurrence.—*P. B. Brodie; Vicarage, Rowington, near Warwick, March* 12, 1861.

Dun Variety of the Robin (Sylvia rubecula).—The colouring of this singular variety is an uniform light dun, which pervades its entire plumage, save the breast and throat, which is red, many shades lighter than in an ordinary specimen; tarsus and toes lightish brown; irides light hazel. The bird I describe was shot by Mr. J. Hamilton, of Minard Castle, Argyleshire, near a small mountain stream. In a letter to me that gentleman states that the poor little bird had not a moment's peace from the incessant worrying of numerous sparrows, and of birds of its own species. This quarrelsome exhibition was undoubtedly caused by Master Bobby appearing in an uncommon livery, hence he was not known, or if so not acknowledged, as one of the family. Mr. Hamilton also informs me that a second variety, exactly similar to the one now described, was shot about a week prior to this instance. Surely Minard must be rich in varieties, from the fact that no less than three have been shot in an exceeding short space of time.—*S. P. Saville, Dover House, Union Road, Cambridge.*

Singular Variety of the Chaffinch (Fringilla cœlebs).—This is the second occurrence of one of these prettily pied chaffinches having come under my notice; the first example has been described by me in one of the former numbers of the 'Zoologist,' the second I would wish to describe as truthfully as possible; its pied markings are as follows. Head and neck pure white. Back pied with white light buff, and interspersed here and there with a bright lemon-coloured feather. Rump bright lemon-colour. Fore part of breast and belly light salmon, each feather having its edges white. Vent lighter. Tail interspersed more or less with white feathers. Wings same as tail. Legs light brown. Irides light hazel. Its rump feathers are differently marked to those in the first example, which were green (ordinary), those of the latter being bright lemon-yellow. From the unusually bright yellow feathers upon its rump and various other parts of its plumage, I was at first rather inclined to the idea that it was a hybrid between the yellow bunting and chaffinch, but I have now decided it is no other than a pied chaffinch, after minute and careful dissection. This handsome variety has been kindly sent to me for identity by Mr. Hamilton, on whose estate it was shot by the gamekeper, on the 29th of December, 1860. The bird now graces the extensive collection of the above gentleman, to whom my very best thanks are due.—*S. P. Saville; February* 12, 1861.

Varieties of the Bullfinch.—That black or nearly black bullfinches do now and then appear is a fact perhaps well known to ornithologists; I of course do not allude to those kept in confinement and fed on hemp seed, but rather to such as have the pleasure of enjoying the freedom of Nature. I have one myself that was killed some years since in the park of Duff House, which, with the exception of a pinkish feather here and there, is altogether of a jet-black I may say. Another was trapped also near here, by a gardener, last summer. This bird was likewise wholly black, except that it had three white feathers in one wing, one in the other, and two in the tail; but white ones, at least so far as I am aware, are of rarer occurrence; still something of the kind is to be met with here. I am now preserving one for Major Duff, M.P. for Banffshire, which was shot a few days ago in a plantation on his estate of Drummuir, by one of his keepers. The breast and a portion of the head are slightly tinged with a beautful yet delicate pink. The bill, feet and legs are of a bright or orange-yellow, otherwise it is of a pure white; in fact, it may be said to vie almost with the snow in whiteness. Altogether it is one of the most delicate-looking varieties of any species I have ever seen, being so white and pure.—*Thomas Edward; Banff, February* 28, 1861.

Extraordinary Multiformation in the Rook's Beak.—The bird from which this drawing is taken is an exact counterpart and presents one of the most peculiar features of multiformation I ever saw, the upper and lower mandibles being particularly elongated. One feature in the beak is, I think, worthy of remark, *i. e.*, the fact of the utter impossibility of the bird having the power of dividing its beak. It must of necessity have taken its food—taking for granted it could not subsist upon atmospheric air—entirely holding its head on one side, so as to be able to nibble any suitable nutriment which by chance came in the way. From all external appearances the bird presented one of age. The greater quills especially appeared as though they had not been shed, being of a dirty rust-colour, as is more or less the entire plumage. Beak minus the naked space at base, but having the hairy-like feathers peculiar to a young bird. The last rare fact verifies the idea that the constant



probing of the rook's beak in the earth in search of its food (worms, &c.), causes bareness upon the beaks of this species.—*S. P. Saville; Dover House, Union Road, Cambridge.*

Late Stay of Swallows.—In the January number of the 'Zoologist' (Zool. 7315) Captain Hadfield has an interesting statement respecting the late stay of swallows in the South of England; I, however, cannot coincide with him when he says he thinks they would not suffer much, even should they spend a whole winter with us. I remember quite well on November 28, 1846, seeing several on the wing here, one of which I shot, and on close examination it was in a most emaciated condition, and I think could not have lived much longer. This is the latest date I ever saw or heard of swallows being seen in this neighbourhood. I saw them very near the spot where I shot a fine specimen of the great sedge warbler, and I believe the only one that has ever been seen in England. I shot it on May 28, 1847.—*Thomas Robson; Swalwell Iron Works, near Gateshead-on-Tyne, February* 13, 1861.

Migration and Torpidity of Swallows.—It is with some hesitation that I venture to reply to Mr. Gostling's queries (Zool. 7382), on those somewhat vexed points, for "men convinced against their will are of the same opinion still." *First.* "Has it been noticed in previous years that swallows and martins remain in the Isle of Wight much beyond the average period of their departure from our coasts, or is this year an exceptional one? I observed them at Ventnor and its immediate neighbourhood every day, up to the 5th of this month" (November). Frequently, and recorded in the 'Zoologist;' for instance, this season martins were seen as late as the beginning of December. *Secondly.* "Can it be that there is, after all, some truth in the hybernating theory, and that the nooks and crevices of the rocks and cliffs, at a point of our coast so far south as Ventnor, afford them a winter shelter?" Being a native of the place, and having—as boy and man—resided in the Undercliff for upwards of thirty years, I think it probable that it must have fallen under my notice, had swallows taken up their winter quarters here. When a boy, there was scarcely a fissure, hole or corner that I had not peered into, when netting and shooting rabbits; and there having, within my recollection, been numerous slippings and founderings both of sea and land cliffs, swallows must have been discovered did they winter here, as suggested by Mr. Gostling. *Thirdly.* "Is it not reasonable to suppose a swallow may become torpid, and sleep away the cold months, as we know the dormouse does?" I think not, seeing that none have been discovered in a torpid state that I am aware of, though many of the old authors, even down to White and Pennant, have entertained the idea; the latter, however, records the opinion of the celebrated anatomist, John Hunter, saying: That he had dissected many swallows, but found nothing in them different from other birds as to the organs of respiration. That all those animals which he had dissected of the class that sleep during winter, such as lizards, frogs, &c., had a very different conformation as to those organs. That all these animals, he believes, do breathe in their torpid state. And Montagu says, "Mr. Bewick relates an excellent account of the experiments of a Mr. Pearson on swallows, with a view to obtain facts with respect to the absurd obsolete opinions concerning their winter torpidity." "The result of many years confinement of these birds was, that at no time of the year did they indicate the smallest tendency to torpidity," &c. Montagu, again, in referring to the subject, remarks, "It is somewhat extraordinary that those who have stated such as facts [the torpidity of swallows] do not mention what species of swallow was so found, nor have we been able to find a single person of good authority who ever saw the fact," &c. With regard to the dormouse, I would refer Mr. Gostling to Macgillivray, vol. ii. p. 15, showing that the respiratory organs of quadrupeds are very differently formed from those of birds; for instance, he says, "In the Mammalia a muscular expansion, named the diaphragm, is a principal agent in respiration," &c. "In birds, however, there is no diaphragm, properly so called," &c. "The lungs are comparatively small, and not so expansile as in quadrupeds," &c. I am ready to admit that swallows may have been discovered in cliffs, shafts of mines, hollow trees, or in other situations, early in December, or even towards Christmas; but that the birds so found were not in a torpid but in a dying state. Should any one doubt this, let him by all means endeavour to procure specimens between the 25th of December and the 25th of March, and should they prove to be healthy birds, let the fact be announced in the 'Zoologist,' so that the most sceptical of modern ornithologists may be converted to the faith of his forefathers.—*Henry Hadfield; Ventnor, Isle of Wight, March* 4, 1861.

[I do not perceive the advantage of reviving the "hybernation-of-swallows" hypothesis: we know that a swallow could cross the channel in five minutes; we know that it could remain on the wing as many hours; we know that a swallow cannot exist here during winter, when it cannot obtain food; we also know that it can and does exist in the warmer climate of Africa, where food is abundant. Why do we require any hypothesis for the disappearance of the swallows? that the swallow should thus fly to its natural food seems to be as simple a *sequitur* as that fowls should run when called to the barley that is scattered for them. The larger question, "What impulse directs the swallow to its food, invariably guiding it in the right direction?" is far more worthy the attention of the philosopher.—*Edward Newman.*]

The Jackdaw and the Mouse.—An acquaintance of mine here, a barber, once kept a jackdaw, which, he tells me, was very fond of mice. His shop consisted of two rooms, back and front. The former of these was the jackdaw's abode. Amongst other things in it at the time referred to was an old shovel, with a rend about the middle, lying against the wall. One day my friend observed a mouse on the floor. The jackdaw also eyed it, and instantly made a spring, but, unlike our domestic favourite, fell far short of the mark. Mousie of course ran for it, but soon reappeared. This time, however, the bird seemed not to notice it until within a few feet, when another dart was made, but failed as before. My friend was now obliged to leave the room to wait upon a customer. On his return he saw the mouse, but not the jackdaw. Where was he? Once or twice he thought he saw the bird's white eye peeping from a certain place, but he was not quite sure. Mousie, however, approaching this spot rather closely, put an end to all conjecture; for, sure enough, out came the bird's head through the hole in the shovel, and nailed the "wee timorous beastie!" After parading about in triumph for some time, with the mouse dangling in his bill, he gulped it, to the utter amazement of his master.—*Thomas Edward; Banff, February* 19, 1861.

Young of the Lyre Bird.—In the month of October, 1858, the nest of a lyre bird was found in the densely-wooded ranges near the sources of the river Yarra-Yarra. It contained a bird, which seemed at first to be an old one in a sickly condition, as it did not attempt to escape, but it was soon discovered to be a young bird of very large size as compared with its helplessness. When taken out of the nest it screamed loudly, the note being high, and sounding like "tching-tching." In a short time the mother bird, attracted by the call, arrived, and, notwithstanding the proverbial shyness of the species, flew within a few feet of its young, and tried in vain to deliver it from captivity by flapping her wings, and making various rapid motions in different directions towards the captor. A shot brought down the poor bird, and with its mother near it the young Menura was soon silent and quiet. It was taken away and kept at a "mia-mia" erected in the midst of the surrounding forest. The following is as correct a description of the bird as I can give you: Its height was sixteen inches; the body was covered with a brown down, but the wings and tail were already furnished with feathers of a dark brown colour. The head was thickly covered with a grayish white down of from one to two inches in length; the eyes were hazel-brown; the beak blackish and soft; the legs nearly as large as those of a full-grown specimen, but it walked most awkwardly with the legs bent inwards. It rose with difficulty, the wings assisting, and when on its legs occasionally ran for a short distance, but often fell, apparently from want of strength to move the large and heavy bones of its legs properly. It constantly endeavoured to approach the camp fire, and it was a matter of some difficulty to keep it from a dangerous proximity to it. Its cry of "tching-tching was often uttered during the day-time, as if recalling the parent bird, and when this call was answered by its keeper, feigning the note "bullen-bullen," the native name for the lyre bird, and which is an imitation of the old bird's cry, it followed the voice at once, and was easily led away by it. It soon became very tame, and was exceedingly voracious, refusing no kind of food, but standing ready with widely gaping bill awaiting the approaching hand which held the food, consisting principally of worms and the larvæ of ants, commonly called "ants' eggs," but it did not refuse bits of meat, bread, &c. Occasionally it picked up "ants' eggs" from the ground, but was never able to swallow them, the muscles of the neck not having acquired sufficient power to effect the required jerk and throwing back of the head. It rarely, if ever, partook of water. It reposed in a nest made of moss and lined with opossum skin, where it appeared to be quite content; while asleep the head was covered by one of the wings. When called "bullen-bullen" it awoke, looked for several seconds at the disturber, soon put its head under the wing again, and took no notice whatever of other sounds or voices. That the young Menura remains for a long time in the nest is proved by the manner in which it disposes of its droppings; our young captive always went backwards before dropping its dung, as if to avoid soiling the nest. It is probable that it leaves the nest in the day-time, when the warmth of the weather invites it so to do, but that during the night it remains in the nest; and if the weather should become cold the mother shelters her young, the nest being large enough to contain both.—*Ludwig Becker, in 'Proceedings of the Zoological Society,'* 1860, p. 61.

Mocking Powers of the Lyre Bird.—The Menura Alberti is famous for its most extraordinary mocking capabilities. It is found only on the Brisbane and Tweed rivers and in the neighbbourhood of their waters. It inhabits the rushes, and generally choses a sandy soil for its locality. I never saw more than a pair together, male and female. Each male bird has his walk or boundary, and gives battle if another male encroaches on it. He commences singing some time before the dawn of day, being the earliest of the forest birds in this respect. His song is much varied, as besides his own peculiar note he imitates the cries of all the birds in the bush, such as the laughing jackass (*Dacelo gigas*), and even the mournful howl of the owl, and the thrilling scream of the curlew. When singing and playing about he spreads his tail over his back like a peacock. He scratches and picks at the earth when singing, which he generally does until about an hour after sunrise. He then becomes silent, and remains so until about an hour before sunset, while he again commences, and continues singing and playing about until it is quite dark. This Menura feeds entirely upon insects, mostly small beetles, mingled with a goodly proportion of sand. It has no crop or upper stomach. The male bird is about four years old before he gets his full tail, as I have proved by shooting examples in full feather with the tail in four different stages of development; the two centre curved feathers are the last to make their appearance. It breeds in winter, commencing its nest in May, laying in June, and hatching its young in July. It generally builds on some bare rock, where there is a sufficient shelter for a lodgment, so that no animals or vermin can approach. The nest is constructed of small sticks interwoven with long dry roots and moss, the inside being composed of the skeleton leaf of the parasitical tree-fern, which makes an inside lining, and is very similar to horse-hair. It is completely rain-proof, and has an entrance at the side. The hen lays only one egg, of a very dull colour, looking as if it had been blotched over with ink. The young bird when first hatched is covered with a white down, and remains in the nest about six weeks before it takes its departure. The flesh is not good for food, being of a dark colour, tough and dry. The aboriginal name is "colwin."—*A. A. Leycester, in 'Proceedings of the Zoological Society,'* 1860, p. 113.

Bustards at Kala-hai.—About fifty miles west of the point of Shan-tung we observe a narrow harbour, formed by a deep bight of the coast, and which ends in a creek running over a plain half grassy and half sand. This is Kala-hai, not marked in the charts. At the entrance we find a fishing party very busy curing cod and skate and soles and sharks. Their boats are hauled up on the sands and their nets spread out to dry, while "all hands" under a shed, half buried in heaps of fish, are cleaning and salting with true Chinese industry. As we follow the course of the creek, we find the view bounded seaward by desolate undulating sand-hills, and landward by green pleasant slopes and villages buried in trees. On the sward between the salt-water lagoon and the sand-hills herds of neat little oxen are grazing placidly. On the sandy mud of the half dry-lagoon Scopimera globosa, a little roundabout crab, taken quite by surprise, is seen scuttling into holes or quickly hiding in the soft sand. In muddy parts Glaucomya and Anatina (bivalve mollusks), buried in the mud, throw up from their siphons little watery jets. On the sand-hills are the bustards (*Otis Houbara*) walking about like turkeys, feeding on the dry fruit of a plant unknown to me, or pausing suddenly in their confident strut, with head on one side and outstretched neck. Their quick eye sees the strangers, and with a short cry they all run towards each other, and rise in a little flock of from ten to twenty.—*Arthur Adams.*

Occurrence of the Little Bustard (Otis tetrax) *in Moray.*—On the 8th inst. the gardener at Westfield, in the parish of New-Spynie, and about four or five miles northwest of Elgin, discovered a little bustard picking turnip-tops, along with a flock of wood-pigeons. It rose with the pigeons, but flew in a different direction. Its flight was like that of a wild duck, except that it kept its head and neck erect or at right angles to its body. Taking a circular course over a twenty-acre field, and while making off, it fell before the gardener's gun at a long distance. It is now in the hands of a bird-stuffer, and will soon have a place assigned to it in the Elgin Museum, beside the one killed near Montrose in 1833, and noticed by Mr. Yarrell. My friend, Mr. P. P. Sellar, to whom I am indebted for the above particulars, states that a few days after his gardener shot this little bustard another was seen two or three times, frequenting the same grounds and feeding in the turnip fields. It was very shy, and could not be approached within a couple of hundred yards. Within the last few months little bustards have been found in Suffolk, Essex and Norfolk (Zool. 7315 7352 and 7353). On the lengthened seaboard that runs northward from these counties to the Moray Firth, other individuals of this rare species must have alighted during their migration, and the pages of the 'Zoologist,' to which its editor solicits such notices, will, it is hoped, record that some of them have been seen or shot,—most likely in turnip fields, their favourite place of resort while they visit Britain in the winter season.—*G. Gordon; Birnie by Elgin, February* 27, 1861.

Pheasant Shooting in Japan.—Nearly opposite Niegata, in Niphon, one of the new ports of Japan very shortly to be opened to Europeans, there is a very beautiful island, with a rocky iron-bound coast certainly, but the interior of which abounds in green trees and wooded hills, which are separated by deep gullies, which in their turn gradually expand into rich alluvial plains, watered by rivulets and parcelled off into productive padi-fields. The name of this little island is Sado, and here it was that we formed one of a party which was bent on the shooting of pheasants. At first our way is by the sea-shore, over great level plains of rock, which seems as if it had once boiled and to have been covered with bubbles of stone, which, having burst, have left circular hollows with raised edges. Here we find plenty of Chitons, a cuttle or so, whelks in abundance, a few queer crabs, but as yet no pheasants. Anon we wander by the weed-grown margin of a rapid shallow stream, which sparkles and eddies and goes on its way rejoicing, forming in its course numerous little waterfalls. By its side runs and flirts up and down the tricksy water ouzel, often making a dash into the small shallow rapids. Here also are the mild slender wagtails, yellow, pied and gray. Very impudent rooks perch on every tree, and the noisy jays are flirting violently among the branches of the oaks. But we see no pheasants. We follow the upward course of the mountain-stream, and are gradually shut in by the sides of a very charming valley. Bright yellow Persimmons hang like the golden fruit of the Hesperides on leafless trees; dark spreading yews harbour within their cool shade snug little cottages, and on every side, to the eye's delight, are tapering soft elegant Cryptomerias, mingled with broad-leaved sycamores and the magnificent foliage of oaks and chesnuts. Desirous of procuring some acorns we stoop to gather some under the trees, and our occupation being observed a good-natured Japanese runs into his house and brings out handfuls of a nut very similar in appearance to an acorn, but which we recognise as the kernel of a species of Taxus growing around. These we are requested to eat, and amid much merriment at our expense, in making so absurd a mistake, our acorns are treated with pantomimic abhorrence and disgust. The Taxus fruit had been boiled in salt and water, and were pretty tolerable, though rather rough to the palate. But the pheasants? Well, leaving me to " moon " about as usual, my impulsive messmate Lieutenant Warren, a sportsman successful as well as enthusiastic, strikes across the country, and very soon sees ten or eleven pheasants feeding together in the open spaces of the scrub. They are by no means shy, never having seen sportsmen before, and are first recognised by the peculiar short crow common to the pheasant family. Their favourite haunt seems to be in the shrubs and high grass on the rising land between the cultivated fields. These pheasants are the rare and lovely Phasianus versicolor or Diard's pheasant, found only in Japan. "It would be difficult," exclaims my friend, elated as was natural, to "describe my sensations when first startled by the metallic splendour of the plumage of this king of pheasants. But," continued he, " if the sportsman wishes to ' make a bag ' he must be prepared for a very hard day's work, for the ground is very hilly and irregular." Three brace and a half fell this day to the excellent shooting of Lieutenant Warren. At a dinner given on board, Diard's pheasant formed a conspicuous feature, and the flesh was pronounced quite equal to that of the English pheasant.—*Arthur Adams.*

On the Nidification of Birds of the Family Megapodiidæ—The very peculiar habits of the whole family of the Megapodiidæ, departing widely from those of all other birds, may also, I think, be shown to be almost the necessary results of certain peculiarities of organization. These peculiarities are two,—the size and number of the eggs, and the nature of the food on which these birds subsist. Each egg being so large as to fill up the abdominal cavity, and with difficulty pass the walls of the pelvis, a considerable interval must elapse before the succeeding ones can be matured. The number of eggs which a bird produces each season seems to be about eight, so that an interval of three months elapses between the laying of the first and last egg. Now, supposing the eggs to be hatched in the ordinary way, they must be laid on the ground (for the general structure of the bird renders the construction of an arboreal nest impossible), and must be incessantly watched by the parents during that long interval, or they would be surely destroyed by the large lizards which abound in the same district. It seems probable, however, that the eggs could not retain the vital principle for so long a time, so that the bird would have to sit on them from the commencement and hatch them successively. But the period of incubation is a severe tax upon all birds, even when it is comparatively short and food easily obtained. In this case complete incubation would be most likely impossible, because the particular species of fruits on which these birds subsist would be soon exhausted around any one locality, and both parents and offspring would perish of hunger. If this view is correct, the Megapodiidæ must behave as they do. They must quit their eggs to obtain their own subsistence,—they must bury them to preserve them from wild animals; and each species does this in the manner which slighter modifications of structure render most convenient.—*A. R. Wallace, in 'Ibis,'* ii. 145.

Tame Snipe.—Mr. J. C. Upham, of Starcross, Devon, has a common snipe which is extremely tame and familiar, and answers to the name of Jenny. In December last she was caught by some boys near the warren, and was brought to Mr. Upham in a starving state. She was recovered by forcing her to eat some very minute pieces of raw mutton. Worms having been procured she soon commenced feeding herself, and eventually would follow Mr. Upham round the room for a worm. Her bath is a good-sized pie-dish, her *salle à manger* is an eight-inch flower-pot, and her amusement is in probing a large damp sod of rushes placed for her fresh every day on a good thick piece of brown paper. Three of us went to see her on the 27th of January. On our entering the parlour where she is allowed to run about she evinced no alarm, and presently commenced feeding. The upper mandible of a snipe's bill being a little longer than the under one, it was with some perseverance and some difficulty that she picked up from the carpet a worm which was thrown to her. Except when she is very hungry she generally washes the worms before eating them. The flower-pot is half full of earth and worms; it is placed on its side: the snipe when she feeds probes the earth for a worm; having caught one she carries it to the pie-dish. After carefully washing it she disables the worm by pinching it all over with the tip part of her bill; then she takes it by the middle and throws it back to swallow, in doing which the head of the worm is on one side of the bill and the tail on the other. The head and tail soon disappear, and the worm goes down double, even if it be as thick as a goose-quill. The snipe constantly goes in and out of the pie-dish, and probes at its bottom with her bill. She frequently washes herself, throwing the water over her back, and flapping and splashing it with her wings; after which she comes out of the dish and preens her feathers, spreading her tail like a fan, bending it round with great flexibility in a curious manner, and keeping it in constant motion. She is very fond of the fire, and stands before it on one leg for hours together. She has on two or three occasions exhibited symptoms of impatience at confinement, by flying against the window: on the last occasion she flew against the ceiling of the room with some violence, and came down much hurt, so that the feathers of one of her wings have been cut. Mr. Upham is getting a place made to collect and store worms; her consumption of them is almost incredulous, for she consumes in twelve hours nearly double her own weight. Three sorts of worms she takes, the dew worm, and two other small red sorts, the names of which are unknown to me; the brandling, the lobb, the gilt-tail, or indeed any worm from a dung-heap, she will not touch. She is also very fond of snails' eggs, very small young snails, woodlice, or small Planorbis, and several other fresh-water shells, eating shell and all; she also picks up gravel like other birds. I watched the bird for more than an hour, and saw her eat more than twenty worms. The pie-dish is a blue one, and, as it was thought to be not quite deep enough for her, a larger one was searched for; but Starcross could not furnish a larger blue dish, so a yellow one was bought, but she would not go near it; it was even banked up with turf, but it would not do, so the old blue pie-dish was brought back to her again. Mr. Upham is keeping a diary, and notes down the habits and peculiarities he observes in his pet snipe. He much fears she will not survive the ensuing summer. I was so much interested that I hope to pay the snipe another visit very soon.— *W. B. Scott; Chudleigh, Devon, February* 22, 1861.

On the Occurrence of the Spoonbill in the County of Cork.— In presenting to the Dublin Natural History Society some fine specimens of Platalea leucorodia, or white spoonbill, I am aware that I can add nothing new to the accounts already published in the several works on Ornithology; it may, however, be of interest to enter into some details respecting the particular birds in question. For two of the specimens I am indebted to my relative Mr. Richard Quin, of Firgrove, Innishannon, County Cork. The village of Innishannon stands on the left bank of "the pleasant Bandon, crowned with many a wood," which rises from the river to a considerable elevation, facing the rocky hill which, on the opposite side, rises nearly perpendicularly, and clothed with wood. Along both sides of the Bandon there are alluvial flats, which above Innishannon form rich pasturage for cattle in the bends of the river, at one of which, opposite Firgrove, Mr. Quin, in 1846, shot the fine specimen of the Canada goose (*Anser canadensis*) which is in the Museum of the Society. Below Innishannon, either from want of improvement or from being at a lower elevation, they extend to a considerable length and breadth nearly to Kinsale, where the river enters the sea. At very high tides and floods these flats are partially submerged. About three miles down the river from Innishannon lies Shippool Marsh, adjoining Shippool Castle, a very old seat of the Herrick family. Early in December, 1860, while looking for snipe on the Marsh, Mr. James Herrick fell in with a flock of four spoonbills, of which he shot one. Of this I had immediate notice from Mr. Quin, having previously urged him to be on the look-out for rare birds, the river near Kinsale being celebrated for the number of water-fowl and waders that frequent it. I wrote to him, to endeavour to secure it, if it was really a spoonbill, and not the shoveller duck (*Anas clypeata*), which is often so called. The result was that Mr. Herrick most kindly presented it at once. For some days after two were seen, and Mr. Quin was indefatigable in trying to secure them for me, but owing to their wildness it was very difficult to approach them. He succeeded, however, in shooting one (the specimen which I have had set up with expanded wings, to show the peculiar black shafts); the other he wounded, but on account of the extent of slob uncovered by the receding tide it escaped, and has not since been heard of; probably it died, and was carried away by the winter floods, which in the Bandon are very powerful on the fall of the tide, which rises to a considerable height, and pushes its waters as far as Innishannon Bridge, enabling coal vessels to sail up. About the same time another was shot by Mr. Thomas Hungerford, of the Island, Clonakilty, County Cork, which he has also presented. These three birds were immature males, and I presume birds of the second year. What impresses me with this idea is the fact that three other specimens have been sent to Mr. Glennon, of Suffolk Street, to be preserved, all of which were males. They were smaller than the specimen before you, and not so white; they are probably of the same age as the living specimens which may be seen at the Zoological Gardens. On consulting Mr. Yarrell's work, and others relating to the spoonbills, it will be found that considerable differences are apparent between the immature and adult bird, the most remarkable of which is the crest or mane of elongated feathers of the occiput and neck in the adult birds, while in the present specimens there is but a very partial elongation. The colour of these is altogether white, except the shafts of the wing-feathers, but in the adult a band of buff feathers covers the breast, extending upwards. The colour of the eye of the young birds is ashy gray, in the adult it is orange-red; and probably the same takes place in the eyes of other birds that, when mature, are of a bright red or yellow, as in the case of the Egyptian goose, &c. We are told also that there is a cere round the eyes to the base of the beak, which in the immature birds is covered with feathers. Fortunately for our information, these birds all fell into the hands of inquiring observers, and it was thought advisable to examine the contents of the stomachs, to find on what these birds subsisted at a season the most inclement for several years, and on which the birds were in fine condition. In the works that I have been able to consult, the food is set down as small Crustacea, mollusks, spawn of fishes, &c.; but in none except Morris, who says, in addition, they eat grasses and the roots of plants, do I find any mention of what all these birds' stomachs contained, which was vegetable matter, probably some of the marsh grasses. No traces of Crustacea or animal matter were found. Now, looking to the conformation of its beak, armed with a sharp broad nail at the end, I do not see why vegetable substances should not form a portion of their food, as in the case of the duck tribe, the palate and sides of whose beaks are not very dissimilar, and therein perhaps we may find a provision of Nature by which the bird, in the absence of more favourite food, may adapt itself to altered circumstances. In the late Mr. Thompson's work we find the records, up to 1846, of the specimens shot in Ireland. I have heard that Dr. Harvey, of Cork, is aware of one shot in that county in 1859, and another at Westport; another was shot at the mouth of the Boyne about the year 1854, by Reynolds, warrener to Mr. James Brabazon, of Mornington, but unfortunately not preserved. It would seem remarkable that, in the accounts published of the several captures, all the instances are on the sea-board; none in the inland counties, although extensive lakes and marshes abound, the resort of birds feeding similarly. The records of Thompson show that in 1808 one was shot in the County Antrim; two in Donegal, in 1837 and 1838; one in the County Dublin, near Malahide (the specimen in the Society's collection), in November, 1841; one in County Wicklow, in October, 1844; three in County Wexford, in 1836, 1840 and 1844; three in County Waterford, in 1829, 1843 and 1845; two in County Kerry, in 1832 and 1846. To the foregoing list three, shot in the County Cork, are now added. The question why this should be I leave to those naturalists who have devoted their attention to the migration of birds. Were these birds on their southward flight to more genial climes? How is it to be accounted for that all were males? We learn that the spoonbills' nests only contain four eggs. Can the four alluded to have been all of the same nest, and the three others sent to Mr. Glennon have been also from one nest, as they appear to be nearly identical in plumage? Or do the sexes separate in the winter time again to re-unite when the pairing season arrives? I learn that when these birds were shot the weather was mild, but previously there had been north-easterly gales, and they might have been returning from their breeding-places in the north of Europe. Some years ago I had three of these birds alive, which were at first kept in a small enclosure, and subsequently enlarged on the ponds at Drumcondra Castle, which were wired around. They throve very well, wading along the edges, feeding on various substances, and, with the waterfowl, on a mixture of bran, potatoes and oats: I do not recollect that anything else was supplied to them. After some time they escaped, but how I cannot tell. One thing I particularly remember—that it was very unpleasant to handle them, from the very disagreeable odour attached to them, and that they were covered with parasites, which ran about on the hands if the birds were laid hold of.—*R. P. Williams.* [Read before the Natural History Society of Dublin, and courteously transmitted to the 'Zoologist' by the President thereof.]

Occurrence of the Little Auk (Uria alle) *near Guildford, Surrey.*—In February of last year (1860) a youth of this town, who happened to be in one of the deep chalk pits belonging to Sir Henry Austen, perceived a strange bird endeavouring to escape from the pit. The bird, however, not having strength enough, kept falling to the ground, and at last was captured by him. He did not then know the name of the bird, but subsequently ascertained it was the little auk. It would not eat anything that was offered it, and died two days after it was caught. The specimen, which was stuffed, is now in the possession of Mr. J. R. Capron, of this town.—*William Bridger; Guildford.*

Eggs of the Great Auk.—The statement by Mr. Wilmot (Zool. 7386), in reference to my list of the possessors of eggs of the great auk, characterizing it as being an erroneous one, demands explanation on my part. The omission of Mr. Wilmot's name was unintentional; but I imagine that when information referring to any branch of Natural History is sought for through the pages of the 'Zoologist,' a mutual benefit is derived by every admirer of its pages. In the present instance I gave, to the best of my knowledge, a list of the known authentic possessors, which, although slightly inaccurate, cannot be termed, as Mr. Wilmot designates it, an erroneous one. My preliminary remarks were to this effect, that "Should any errors or omissions be detected I should be glad to receive any communication on the subject," in order, as the editor justly remarks, "that a correct list of the real possessors might be arrived at." I think, therefore, there was not the slightest reason, on the part of Mr. Wilmot, to have penned his note in the strain he has thought fit to do. I should have thought that he would have omitted all mention of the unfortunate mistake made by Mr. Hewitson in placing the egg the wrong way on the page, thus giving to the public an intimation of an error of judgment which cannot but detract from the usefulness and value of the work in question. It is exceedingly gratifying to me to state that the numerous letters from different parts of the Continent, elicited by my communication to the 'Zoologist,' have added materially to my stock of information, and afford a sufficient proof of the utility of my remarks.—*Alfred Roberts; King Street, Scarborough, March* 11, 1861.

[I must request that any future observations on this subject be confined to simple facts: as a matter of justice, not taste, I admit this note by Mr. Roberts: it does not tend to serve the cause of Natural History: I must also say that I do not consider Mr. Wilmot's expression "misstatement" at all called for by the circumstances of the case.—*Edward Newman.*]

Oil-gland in Birds.—Some months ago I observed several notes in the 'Zoologist' respecting the use of the oil-gland in birds, but at the time was too much occupied to be able to write on the subject. However, the following circumstance, which came under my own observation, previous to the discussion in question, will perhaps be worth publishing, as it may tend to clear up a doubt which would seem to exist in the minds of some ornithologists. I was standing at my window, in a farm-house where I then lodged, watching some barn-door fowls that were perched on a low wall immediately in front, and at a distance of not more than two yards from me. It had been raining during the early part of the morning; but as the sun had just begun to shine they were busy dressing their feathers. During this operation I distinctly saw one of them, which stood with its back towards me, raise the feathers over the oil-gland, and, having taken the point, from which the oil escapes, in his beak *sideways*, so as not to interfere with the extremity of it, press a considerable quantity to the surface; and then, having rubbed the feathers of the throat immediately below the beak on the gland, so as to insure their wiping the oil off, proceed to rub his thus anointed throat on his back and other parts of his plumage, at the same time constantly passing the feathers through his beak. This operation he repeated many times, and had I ever entertained any doubt as to the use of the gland it must have been entirely removed by what I then witnessed.—*H. S. R. Matthews; Westbourne, Emsworth, Sussex.*

Collected Observations on the Nests and Eggs of British Birds.

By EDWARD NEWMAN.

(Continued from p. 7400.)

REDSTART, *Sylvia phœnicurus.*

Situation. Holes in walls, rocks, trees, barns, stables, &c. "One day having occasion for a flower-pot, not of a very large size, I took one which had been left inverted in a narrow path between two sea-kale beds. On lifting it up I discovered a redstart's nest with five eggs placed on the ground. I carefully replaced the pot over the nest, inclining it a little towards the south, so that when the sun was shining I could just discern the eggs through the hole at the bottom (now, from its inverted position, the top) of the pot. On passing it soon after, I found the hen bird was on the nest; and she succeeded in hatching and bringing up her brood; paying no regard to my looking down upon her as I passed by, if I did not stop."—*Rev. John Atkinson* (Zool. 355).

Materials. Moss, lined with hair and feathers.

Eggs, 5—7. Pale blue-green, unspotted.

STONECHAT, *Sylvia rubicola.*

Situation. On the ground at the bottom of a furze bush.

Materials. Moss and dry grass; the lining feathers, hair, and sometimes fine grass.

Eggs, 5, 6. Pale creamy blue, with minute red-brown spots at the larger end.

WHINCHAT, *Sylvia rubetra.*

Situation. On the ground on heaths, &c., or very near the ground, concealed with such skill that I have searched for hours without finding it, although certain it was within a short distance of me. The bird is said to make a kind of track or meuse along the grass to its nest, and to enter this meuse at a considerable distance from the nest.

Materials. Moss and grass of two kinds, the coarser on the exterior, the finest employed for the lining.

Eggs, 5, 6. Delicate blue-green, rarely with fine red-brown specks.

WHEATEAR, *Sylvia œnanthe.*

Situation. Always in the chinks of stone walls, or under stones on moors or mountain wilds.

Materials. Moss, dried grass, wool and hair: the wool left on brambles and thickets is always sought by these birds.

Eggs 5, 6. Pale blue-green, rarely spotted at the larger end.

GRASSHOPPER WARBLER, *Sylvia locustella.*

Situation. In furze-bushes on commons, generally at the very bottom, and in sedge in the fens.

Materials. Moss, grass, lady's bedstraw; the lining fine grass.

Eggs, 4—7. Gray tinged with rose-colour, speckled all over with the same colour, but of a deeper shade.

SAVI'S WARBLER, *Sylvia luscinioides.*

Situation. On the ground, in the parish of Milton, between three and four miles from Cambridge.

Materials. The leaves of the common reed, without any other lining.

Eggs, 4, 5. Whitish, nearly covered with minute specks of two colours, pale red and light ash-gray. "These nests were found at Baitsbite, in the parish of Milton, between three and four miles north of Cambridge. The nests, in each instance, were on the ground in a thick tuft of sedge. These are cup-shaped, compactly formed of the long narrow leaves of the common reed (*Arundo Phragmitis*), wound round and interlaced, but without any other lining. The eggs measure ten lines in length by seven and a half lines in breadth; of a whitish ground-colour, covered nearly all over with minute specks of two colours, one set being of a pale red, the other of light ash-gray; in some of the eggs the pale red spots are more conspicuous, and these resemble the eggs of the grasshopper warbler, but are rather larger; in others the gray specks are predominant, and these resemble the eggs of the Dartford warbler."—*Mr. Bond* (Zool. 1212).

SEDGE WARBLER, *Sylvia Phragmitis.*

Situation. At the foot of low bushes by the sides of ponds and ditches, or in a tuft of grass: in situations exactly similar to those selected by the reed bunting, and not suspended among reeds, as recorded by Mr. Selby and others; in fact it seldom frequents reeds.

Materials. Moss and coarse grass externally, lined with hair and fine dry grass.

Eggs, 5, 6. Pale umber-brown, sometimes slightly streaked with black.

GREAT SEDGE WARBLER, *Sylvia turdoides.*

Situation. In beds of reeds, supported by three or four of the reed-stems.

Materials. Dried leaves and flowering scapes of the reeds.

Eggs, 4, 5. "Pale greenish white, spotted and speckled with ash-gray and reddish brown."—*Yarrell*, i. 301.

REED WREN, *Sylvia arundinacea.*

Situation. In marshy situations suspended over the water, between the stems of reeds, to which it is curiously and beautifully fastened by the dried grasses and reeds, of which it is principally constructed: often in bushes near water.

Materials. Dried leaves, as well as the dried flowering scapes of the reed.

Eggs, 4, 5. White, tinged with green, and blotched with brown and olive-green.

NIGHTINGALE, *Sylvia Philomela.*

Situation. On the ground, especially on banks.

Materials. Dried leaves outside, lined with fine grass.

Eggs, 4—6. Yellow olive-brown, unspotted; occasionally blue.

BLACKCAP, *Sylvia atricapilla.*

Situation. In nettles, brambles, always near the ground, but not on it. "A pair mostly build in the laurel hedge in my garden, and place the nest six feet from the ground."—*Mr. Doubleday.*

Materials. The dried stems of cleavers, fibrous roots, &c.; very slovenly in structure.

Eggs, 4, 5. Whitish, spotted and blotched with two shades of brown or delicate pale pink, with dark red spots and blotches.

GARDEN WARBLER, *Sylvia hortensis.*

Situation. Among nettles and in bramble-bushes, or traveller's joy when densely matted and near the ground.

Materials. Moss, dried goose-grass, fibrous roots, wool, horse-hair; a loose and slovenly nest.

Eggs, 4, 5. Pale stone-colour, spotted with ash-gray and brown.

WHITETHROAT, *Sylvia cinerea.*

Situation. Among nettles and in bramble-bushes, or in any low and very thick herbage.

Materials. Generally the dead stems of goose-grass and a little hair; the materials are very loosely attached, and the nest appears carelessly made.

Eggs, 4, 5. Greenish white, spotted with gray and brown; the spots much thicker at the larger end, and forming a zone.

LESSER WHITETHROAT, *Sylvia curruca.*

Situation. Among nettles, brambles, &c.

Materials. Stout bents outside; finer ones and horsehair inside.

Eggs, 4, 5. White, inclining to gray, with scattered spots of dark gray and pale umber-brown, chiefly at the larger end.

WOOD WREN, *Sylvia sylvicola.*

Situation. On the ground, among coarse tufts of grass; its shape a depressed sphere.

Materials. Hay, leaves, moss, lined with very fine hay and horsehair.

Eggs, 5, 6. White, covered with purple-red spots, rarely confluent and forming a zone at the largest part.

WILLOW WREN, *Sylvia trochilus.*

Situation. On the ground, generally on the bank bordering roads that have been worn through woods; its shape a depressed sphere, with a lateral opening.

Materials. Moss and grass externally, lined with feathers.

Eggs, 5—7. White, delicately speckled with red, or sometimes unspotted white.

CHIFFCHAFF, *Sylvia rufa.*

Situation. On or near the ground in hedge-banks; nearly spherical or oval, with a lateral opening.

Materials. Dead grass, leaves and moss outside; a profusion of feathers in the interior.

Eggs, 5, 6. White, with a few purple-brown specks.

DARTFORD WARBLER, *Sylvia provincialis*, Temminck.

Situation. Thick furze bushes, about two feet from the ground.

Materials. "The nest is composed of dry vegetable stalks, particularly goose-grass, mixed with the tender dead branches of furze, not sufficiently hardened to become prickly: these are put together in a very loose manner, and intermixed very sparingly with wool. In one of the nests was a single partridge's feather. The lining is equally sparing, for it consists only of a few dry stalks of some fine species of Carex, without a single leaf of the plant and only two or three of the panicles. This thin, flimsy structure, which the eye pervades in all parts, much resembles the nest of the whitethroat."—*Col. Montagu, Linn. Trans.* "I possess eight nests of the Dartford warbler: they all agree with Montagu's description, as far as the materials are concerned, but they are much more compact than he describes them, and not at all like the whitethroat's."—*Mr. Bond.*

Eggs, 4—6. "The eggs are also similar to those of Sylvia cinerea (the whitethroat), but rather less, weighing only 22 grains; like the eggs of that species they possess a slight tinge of green; they are fully speckled all over with olivaceous-brown and cinereous on a greenish white ground, the markings becoming more dense and forming a zone at the larger end."—*Col. Montagu, Linn. Trans.* "I have about twenty eggs of the Dartford warbler, and they are more like those of the lesser whitethroat."—*Mr. Bond.*

GOLDENCRESTED REGULUS, *Regulus cristatus.*

Situation. Suspended from the horizontal twigs of the spruce fir or yew, rarely of other trees: several instances are recorded of this bird breeding twice in the same nest (see Zool. 871).

Materials. Moss and lichen, lined with feathers; a very beautiful and compact structure. Mr. Selby, as I think erroneously, described this nest as spherical: I should call it a hollow hemisphere; in this not differing from the ordinary form of compact nests.

Eggs, 6, 7. Rosy white or very pale brown, unspotted.

GREAT TITMOUSE, *Parus major.*

Situation. Holes in the trunks of trees, or of walls: on the former Mr. Selby has this observation, "The excavation is made by the bird itself, which I have seen busily engaged in this task, and have admired the rapidity with which the work advanced." Mr. Hawkins relates (Zool. 3503) a singular instance of this bird building its nest in a drinking-cup.

Materials. Moss, feathers, hair.

Eggs, 6—12. White, spotted with red-brown.

BLUE TITMOUSE, *Parus cæruleus.*

Situation. Holes in trees or walls.

Materials. Moss, feathers, hair.

Eggs, 7—9. White, spotted with red-brown at the larger end.

CRESTED TITMOUSE, *Parus cristatus.*

"At Inverness, on the 23rd June, I was shown some specimens of the crested titmouse, with some unblown eggs, taken a few days before from the pine woods of Strathspey, where they are by no means uncommon. The boy who took the eggs told me they were always to be found in the hole of a tree highish up; he took the female with the nest and five eggs. The eggs are the size of those of the blue titmouse, and like them in colour, with the addition of being more mottled at the larger end."—*Sir William Milner* (Zool. 2017). "I have Scotch specimens in which the spots are larger and brighter than in those of the blue titmouse."—*Mr. Bond.*

COLE TITMOUSE, *Parus ater.*

Situation. In the ground in banks this bird takes possession of the deserted hole of a rat, mole, or perhaps mouse; sometimes, but not so often, in the trunks of a tree. "I once found one on the branch of a fir, close to the bole, very like a longtailed tit's, but much rounder."—*Mr. Bond.*

Materials. Moss, wool, hair.

Eggs, 6—9. White, spotted with red-brown.

MARSH TITMOUSE, *Parus palustris.*

Situation. Holes of trees, especially willows, placing the nest very deep. Mr. Gurney mentions one built in a rat's hole (Zool. 3503). They often build in holes in banks.

Materials. Moss, the down of the ripe catkins of the willow, and the fur of rabbits, if they can procure it.

Eggs, 6—8. White, with red-brown spots, more numerous at the larger end.

LONGTAILED TITMOUSE, *Parus caudatus.*

Situation. Bushes and trees.

Materials. Lichens and wool, lined with feathers. The nest of this strange-looking little bird is totally different from that of any other species with which it is associated by naturalists; it is one of the most beautiful and interesting structures that the student of birds has ever discovered: its size is remarkably large for the bird, its shape oval, its position perpendicular; the whole structure is strongly and compactly united by the interweaving of wool with the moss and lichens; on one side is a circular hole through which the bird enters, but this is scarcely visible when she is absent, so that I am inclined to believe she partially closes this opening on leaving the nest, for the sake of security. Mr. Selby makes an assertion with respect to this nest that I have never been able to verify. "A small hole," says this distinguished naturalist, "is left on two opposite sides of the nest, not only for ingress and egress, but also to prevent the bird, during incubation, from being incommoded by its long tail, which then projects through one of the orifices." Mr. Bond tells me he does not think there are ever two holes.

Eggs, 7—9. White, delicately tinged with rose-colour until blown, when they lose this hue; there are some very minute red-brown specks about the larger end.

BEARDED TITMOUSE, *Calomophilus biarmicus.*

Situation. Large beds of reeds in Hickling and Hornsey Broads, in Norfolk.

Materials. "The nest is composed, on the outside, of dead leaves of the reed and sedge, intermixed with a few pieces of grass, and lined with the top of the reed. It is generally placed in a tuft of coarse grass or rushes near the ground, on the margin of the dykes, in the fen; sometimes fixed among the reeds that are broken down, but never suspended between the stems."—*Mr. Hoy.*

Eggs, 4—6. White, with pale red-brown lines.

This bird appears to me to have no relationship to the tits, with which it is always associated: in structure, nest and eggs it more nearly resembles the buntings.

PIED WAGTAIL, *Motacilla Yarrelii.*

Situation. Holes in stone walls, heaps of stones by road-sides, quarries, roofs of porticos, pollard willows at the top of the trunk. Some remarkable situations for the nests of wagtails are recorded in the 'Zoologist': I will cite one. "Under a switch of the Ayrshire Railway, at the Lochwinnoch Station, a pied wagtail built her nest and sat on five eggs, although there was scarcely an hour in the day without trains passing over it, and the whole of the engine and carriages within two or three inches of the nest."—*Zool.* 726.

Materials. Moss, fibrous roots, grasses, wool, horsehair.

Eggs, 4—6. Gray, speckled with light umber-brown.

Gray Wagtail, *Motacilla boarula.*

Situation. Shelves of rocks, under stones in quarries and on banks.

Materials. Moss, bents and horsehair.

Eggs, 5, 6. Gray, blotched with ochre-gray.

Ray's Wagtail, *Motacilla campestris.* This bird is better known among collectors by the names of "Yellow Wagtail" and "Motacilla flava," both which names are considered properly to belong to another European species which occasionally visits this country, but I think does not breed here.

Situation. On the ground.

Materials. Hay, bents, fibrous roots, lined with horsehair and cow's hair.

Eggs, 4, 5. Pale umber-brown, with darker spots.

Tree Pipit, *Anthus arboreus.* This species is confounded with the following, under the name of "Titlark": the name should be confined to the Meadow Pipit.

Situation. On the ground, under shelter of a loose turf or tuft of grass.

Materials. Moss, fibrous roots, wool, grasses, lined with finer grasses and hair.

Eggs, 4—6. Probably more variable than those of any other British bird; sometimes pale brown, thickly dotted with deep brown spots, mostly forming a zone at the larger end; sometimes deep brick-red colour, thickly sprinkled with dots of a deeper shade; at other times pale or reddish, marked with spots and streaks, like the eggs of the buntings; others closely resemble the red variety of the egg of the blackcap, and others again are very similar to the egg of the house sparrow.

Meadow Pipit, *Anthus pratensis.*

Situation. On the ground, protected, if possible, by a loose turf or tuft of grass.

Materials. Bents and the seed-stalk of Cardamine pratensis, lined with very slender bents or horsehair.

Eggs, 5, 6. Pale brown, freckled with spots of a deeper colour: vary but little.

Rock Pipit, *Anthus obscurus.*

Situation. Crevices or ledges of sea-cliffs.

Materials. Coarse bents and sea-weed on the outside; finer ones and sometimes horsehair for the lining.

Eggs, 4, 5. Gray, spotted with red-brown; the spots crowded at the larger end, like those of the meadow pipit.

SKYLARK, ***Alauda arvensis.***

Situation. On the ground amidst corn and standing grass.

Materials. The dried stems of a variety of herbaceous plants outside; lined with very fine grasses.

Eggs, 4, 5. Dirty white, tinged with green, and spotted with umber-brown, generally forming a zone at the larger end.

WOOD LARK, ***Alauda arborea.***

Situation. On the ground, under a tuft of grass or any low plant.

Materials. Grasses and bents, the coarser ones outside, the finer used for lining.

Eggs, 4, 5. White, thickly speckled with reddish brown; rarely zoned at the larger end.

SHORE LARK, ***Alauda alpestris.***

The Hon. T. L. Powys mentions (Zool. 3707) the very remarkable fact of the shore lark breeding in Devonshire. "On the 12th of July, 1851, my friend, Mr. W. W. Buller, found a nest of the shore lark near Exmouth, South Devon, among some bent grass close to the sea, and containing four eggs. The eggs were very much like those of the wood lark. The hen bird was caught on the nest, and is in my friend's possession."

COMMON BUNTING, ***Emberiza miliaria.***

Situation. Among coarse grass, near to or on the ground.

Materials. Straw, coarse hay, outside; lined with fibrous roots and sometimes with horsehair.

Eggs, 4—6. Gray, tinged with yellow, with red-brown and ash-coloured spots and streaks.

BLACKHEADED BUNTING, ***Emberiza Schœniclus.***

Situation. On the ground, under a tussock of Carex, Aira cæspitosa, or some coarser grass, always in moist swampy localities.

Materials. Moss, dried grass, lined with fine grass and horsehair.

Eggs, 4, 5. Gray, with a slightly rosy tinge, spotted, streaked and veined with purple-brown. "The eggs much resemble those of a chaffinch."—*Col. Montagu.*

YELLOW HAMMER, ***Emberiza citrinella.***

Situation. On or near the ground, commonly under shelter of overhanging grasses. I have on three occasions found the nest of this bird in cart-ruts seldom used; in two instances the parent had perished by the passage of a waggon laden with hay.

Materials. The decayed or dried leaves of grass form the exterior of the nest, then follows a layer of finer grasses, and the whole is lined with horsehair.

Eggs, 3—6. Dingy white, tinged with purple, streaked and veined with purple-brown, each streak or vein generally terminating in a spot of the same colour.

CIRL BUNTING, *Emberiza Cirlus.*

Situation. "It generally builds in furze or some low bush."—*Col. Montagu.*

Materials. "The nest is composed of dried stalks, roots and a little moss, and lined with long hair and fibrous roots."—*Col. Montagu.*

Eggs, 4, 5. "The eggs are four or five in number, cinereous-white, with irregular long and short curved dusky lines, terminating frequently with a spot at one end; size rather inferior to those of the yellow hammer."—*Col. Montagu.* "I have taken several nests in the Isle of Wight."—*Mr. Bond.*

CHAFFINCH, *Fringilla cœlebs.*

Situation. Generally in forks of smaller branches of lichen-covered apple-trees, but also in other trees; and I have found the chaffinch's nest in the ivy which sometimes clothes the trunks of trees.

Materials. Moss, lichens and wool, interwoven into the most compact mass, and forming a beautiful and symmetrical object, always assimilating in colour to the site the bird has chosen; the lining is feathers and hair.

Eggs, 4, 5. Gray, tinged with blue and pink, and streaked and spotted with purple-red; sometimes all pale blue.

TREE SPARROW, *Fringilla montana.*

Situation. In the holes of pollard and other trees that have gone to decay; rarely in the thatch of old barns, &c.

Materials. Hay, straw, lined with feathers, the flowering tops of reeds, &c.; the top domed over (Zool. 1875).

Eggs, 4, 5. Gray, thickly spotted with darker gray, or umber-brown; frequently white, with gray spots or blotches.

HOUSE SPARROW, *Fringilla domestica.*

Situation. Generally under the eaves of houses, barns or stables; sometimes in the mud-built habitation of the martin, but not uncommonly in trees in exposed situations and quite apart from buildings.

Materials. Straw and hay, lined with feathers.

Eggs 5, 6. Gray, almost white, but thickly sprinkled and spotted with darker gray or black. "Of a very long, oval form."—*Mr. Selby.*

GREENFINCH, *Fringilla chloris.*

Situation. In thick hedges, ivy and other evergreens.

Materials. Moss and wool, lined with hair and feathers. Mr.

Gurney writes (Zool. 3576), "In a bushy plant of heath, growing in a garden near Norwich, were found two nests of the common greenfinch, which not only were completely interwoven at the adjoining sides, but were built on one common platform, a foundation of fibrous roots and moss. Both nests were complete, except that one of them was deficient in interior lining. When found I understand there was one egg in each."

Eggs, 4, 5. White, with a tinge of blue, speckled at the larger end with light orange-brown.

EDWARD NEWMAN.

(To be continued.)

Occurrence of Lythria purpuraria in Britain. — I have just been over to Burghfield, and, after a good search through Mr. Wailes's magnificent library, am able to inform you of the capture of a Geometra new to (or rather renewed to) the British list, *viz.*, Lythria purpuraria, *Hüb.*: two specimens, males, of this conspicuous insect were beaten out of broom, on the 18th of June, "not far from the city of Perth," by Mr. D. P. Morrison, of Pelton, near here. One is at present in my possession; the other graces the cabinet of a friend of Mr. Morrison's. I see Stephens records it, on the strength of a single specimen, in his genus Aspilates: it is figured in Hübner (Geo. 38), Freyer (Geo. 60), and others: the former is considered the best by Guenée. — *V. R. Perkins; Newcastle-on-Tyne, February* 23, 1861.

Close of the Labours of a Colony of Hornets.—The following remarks have reference to the colony of Vespa crabro, some particulars relating to which were given in my paper on "Vespidæ" (Zool. 7261). The nest, with the insects belonging to it, was, as there stated, removed on the 7th of September from its original situation in the head of a felled tree to the interior of a glazed box, and conveyed to a room some two miles distant from the place of capture, where the labours of the colony were resumed and carried on during the remainder of the season. The insects continued to work with great perseverance till the 9th of November, although their numbers had been gradually falling off for some few weeks previously. On the above day I captured eighteen workers and a couple of young queens, for the purpose of supplying Mr. Westwood with specimens, that gentleman having expressed a wish for some from which to prepare the sting and other parts, in illustration of some remarks upon their organization he was about to submit to the members of the Ashmolean Society at one of their meetings. The mode of capture was as follows. A bit of rag was bound round one end of a piece of wire and introduced through an aperture in the box; this was brought close to the individual marked out for capture, who thereupon immediately seized the rag with its mandibles, and to which a hearty shake or two, or a squeeze against the side or bottom of the box, by way of provocation, caused the creature to adhere so firmly, and with so determined a grasp, that there was no danger of its quitting its hold on being withdrawn from the box, nor while it was being passed from thence and placed inside the mouth of a bottle, nor was it without extreme difficulty it could at last be separated from its supposed enemy. This applies only to workers; in the capture of young queens and males different means must be employed, and some degree of wariness and caution observed, since the former, though possessing ample means of defence, and although in the spring they will upon occasion fight desperately with each other, will nevertheless at other times be observed to decline engaging in a contest in which they might chance to get the worst of it; having a constant eye to self-preservation they act as though fully agreeing with Sir John Falstaff, that "the better part of valour is—discretion," while the latter, being totally unprovided with the means of defence, seem to be aware that their only chance of safety lies in avoiding danger in whatever shape it may present itself; they therefore never voluntarily expose themselves to it, but may be observed upon all occasions to retreat therefrom with as much agility as—from their somewhat sluggish nature—they are capable of exercising. The capture of these individuals had the immediate effect of putting a complete stop to the work of the nest, and of breaking up the community. A few solitary workers were to be seen hanging listlessly about for a day or two, with here and there a young queen, after which they all disappeared. On removing a portion of the covering, for the purpose of observing the state of the combs, I was surprised to find that the old queen — the foundress of the colony—was still in the nest, and that with the exception of larvæ, &c., she was the sole occupant, the worn appearance of her body, the pubescence with which it was once adorned having been completely rubbed off, together with the tattered state of her wings—too tattered to be of further use to her—were marks sufficient to prevent any mistake being made in her identity. Although so late in the season, she was found, on being opened after death produced by chloroform, to contain a considerable number of eggs: this was probably owing to the late period in the summer at which she began to lay, since, as stated in my former paper, only about twenty young hornets had made their appearance at the beginning of August. The nest contained five combs on its completion, or rather when the work of enlarging it had ceased, for nests formed by the social Vespidæ are, in point of fact, never completed. The building is invariably in a progressive state till the strength of the workers fails and they drop off in the midst of their work, leaving numbers of incomplete cells and unfinished portions of the covering in which the combs are enclosed. The upper comb consisted entirely of the cells of workers, the second of males, and the third, fourth and fifth of females. All the cells, both of workers and males, were empty; not a single egg, larva or pupa being found in either of them. The female cells contained about a dozen eggs and near two hundred larvæ, one of which, and only one, had spun itself up. The remaining cells were empty, the larvæ they once contained having passed into the perfect state, except a few which had fallen out or had been dragged out by the workers. None of the cells contained more than one egg or one larva each, and none of the workers whose bodies were examined were found to contain eggs, which two circumstances combined rather lead to the inference, though they are by no means sufficient to prove, that among the social Vespidæ it is only in nests that have been deprived of the queen we find cells crowded with eggs or larvæ, and that wherever such is observed to be the case those eggs and larvæ are the produce of workers, who, but for the occurrence of the casualty just alluded to, would have remained infertile. The covering with which the insects contented themselves during the greater part of the season was basin-shaped, and thin in substance, but as the weather became more severe it was gradually made thicker, and the opening as gradually contracted, so that it appeared to be the ultimate design of the workers to close it up so far as only to leave, like the other species of social Vespidæ, an aperture sufficiently large for the purpose of entrance and exit.

The structure was one of great beauty, both with reference to shape and also in the distribution of the colours, which were exceedingly rich and varied. From the circumstance of the nest on its first removal being found to contain a specimen of Velleius dilatatus in the perfect state, I had great hopes of being able to obtain larvæ of that insect at the close of the season. In this, however, I was disappointed, for upon a close examination neither larvæ nor any trace of the parasite could be discovered; it would therefore appear that the creature at the period of its capture had not found time to deposit its eggs. Among the refuse which accumulated underneath the nest, two or more species of Dipterous insects found means to deposit their eggs, the larvæ peoduced therefrom feeding upon the offal which chanced to fall from the combs. A number of these larvæ were exhibited at the February meeting of the Entomological Society, by Mr. Walker, on the part of Mr. F. Smith of the British Museum, to whom I sent them, when some were pronounced to be those of Anthomyia canicularis, while it was considered doubtful what the others might prove to be. It was amusing to observe the cool way in which numbers of the common house-fly, blue-bottles and other species would enter the box and take their places round the dish containing the sweets upon which the hornets were regaling themselves, feeding with apparent unconcern close beside the latter-named insects. Occasionally an unlucky individual was made to pay dear for its temerity, but by far the greater number dexterously contrived from day to day to evade all attempts on the part of the hornets to catch them.—*S. Stone; Brighthampton, near Witney.*

Inquiry respecting the Name of a Larva. — I should be much obliged if you would inform me of the name of the grubs of which the following is a description: — They were found by the woodman on cutting down a rotten elm tree in a gentleman's garden, December 11th. There were three in number; they were whitish, verging to a bluish purple towards the tail: the largest was about three inches in length and 1¾ inch in circumference; it had small brown spiracles, one for every joint in its body, of which there were fourteen; it had six brown and serrated legs behind its head, which was brown and hard, having immense, strong and deeply serrated mandibles, and correspondingly large maxillæ, very small black eyes, and antennæ with five joints. At first it might be mistaken for a goat-moth caterpillar, but the colour is different; the jaws of the latter are much smaller; and it had none of those sucker legs which the goat-moth caterpillar possesses. —*H. G. Percy; Albury Park, Sur- March* 26, 1861.

[Certainly the larvæ of the common stag beetle (*Lucanus Cervus*).—*E. Newman.*]

Proceedings of Societies.

Entomological Society.

March 4, 1861.—J. W. Douglas, Esq., President, in the chair.

Donations.

The following donations were announced, and thanks ordered to be presented to the donors: — 'On some Oceanic Entomostraca collected by Captain Toynbee,' by John Lubbock, Esq., F.R.S., F.L.S.; presented by the Author. 'The Journal of the

Royal Agricultural Society of England,' Vol. xxi. Part 2; by the Society. 'The Journal of the Society of Arts' for February; by the Society. 'The Athenæum' for February; by the Editor. The 'Zoologist' for March; by the Editor. 'The Entomologist's Weekly Intelligencer,' Nos. 227 to 230 inclusive; by H. T. Stainton, Esq. 'Stettiner Entomologische Zeitung,' Vol. xxii. Nos. 1—3; by the Entomological Society of Stettin.

Elections.

George Sharp Saunders, Esq., of Hill Field, Reigate, was elected a Member of the Society; and Alfred Haward, Esq., of Gloucester Road, Croydon, was elected a Subscriber to the Society.

Exhibitions.

Mr. Stainton exhibited two beautiful specimens of Xylina conformis, taken near Cardiff, on ivy-blossoms, in October, 1859. The species had not hitherto been captured in Britain.

Dr. Wallace exhibited fine dark varieties of Hemerophila abruptaria, taken near London; and a Lasiocampa bred from the larva found in the Isle of Wight, which he considered closely resembled the species or variety from the North of England, called Callunæ.

Mr. Mitford exhibited a beautiful brown variety of Biston prodromarius, and a produced hybrid from Phigalia pilosaria and Nyssia hispidaria, respecting which he furnished the following notes:—

"On the 5th of March, 1859, I enclosed a female of Nyssia hispidaria, which had recently emerged from the pupa, in a gauze-covered chip-box, and also introduced a male of Phigalia pilosaria. They copulated, and on the 7th of that month the female deposited her eggs, which hatched the first week in April, and the larvæ assumed the pupa state about a month afterwards. The following March three perfect and three crippled males and one female made their appearance. In size the males resemble N. hispidaria, but in colour have the lighter and greener tint and transparency of wing of P. pilosaria; the legs and antennæ of the female also are annulated as in the females of the latter species. I should add that but for an accident, which destroyed the greater part of my pupæ, I should probably have bred forty or fifty more."

Mr. Mitford also exhibited the following species of Psyche, with notes on their economy:—

"*P. fusca.* Larva of this species abundant in the neighbourhood of Hampstead; it feeds early and late in the season, chiefly on bramble; in the summer months, on various trees and plants, more particularly buckthorn, oak and mountain ash. The larvæ are hatched in August, and the moths appear the following June twelvemonths; thus they are two years in arriving at the perfect state. The female pupa-cases are found spun up on leaves in an upright position; that of the male is generally pendant from branches or main stems.

"*P. radiella.* The perfect insect frequents moist places on Hampstead Heath, in June. I have never found the larva-cases.

"*P. salicolella.* The larva-cases of this species were discovered by Mr. Tompkins on buckthorn, and afterwards by myself on birch, at Hampstead: they are a *fac-simile* of a small P. fusca case.

"The females of these three species remain within the larva-case.

"*P. intermediella.* Found on stems of fir-trees at Black Park, in abundance, in June.

"*P. roboricolella.* The larva-cases are found on various trees at Hampstead.

"*P.* ——? Apparently a very distinct species, allied to P. roboricolella, but the wings much more rounded, as in P. radiella."

Mr. Mitford likewise exhibited a fine specimen of Acrolepia marcidella, taken in his garden at Hampstead.

Mr. Bond observed that the two or three examples of this species hitherto taken in this country were much wasted.

Dr. Knaggs announced that the Noctua exhibited and described by him at the Meeting of the Society on the 1st of October last as Nonagria? Bondii, had been pronounced by M. Guenée to be a species unknown to him.

Mr. Waterhouse exhibited three species of Scymnus, *viz.*, S. discoideus, and two others which he thought might probably be included by authors among the varieties of that species, but which have different habits and present distinguishing peculiarities. With regard to S. discoideus, he observed that all, or almost all, authors stated that the insect was found on, or in the immediate neighbourhood of, fir trees: he had examined a large number of specimens having this habitat, but he did not find that amount of variation in colour which had been attributed to the species; on the contrary, a large number of specimens collected by himself and Dr. Power, from fir trees, presented no marked varieties: they could all be comprised in the following description:—

> Oval (slightly oblong), black; elytra thickly and rather finely punctured, the punctures of unequal size; fulvous-red, with the suture narrowly edged with dusky, and sometimes likewise the base of the elytra, as well as the outer margin on the basal half; antennæ, palpi and legs more or less dusky (never entirely pale); thorax with the sides very generally rufescent, especially towards and at the anterior angles. Body beneath rather strongly but by no means thickly punctured; the chest with a distinct longitudinal grove.

The dark edging to the suture and other parts of the elytra is very commonly ill-defined, and by no means distinct. S. atriceps of Stephens is founded upon an immature specimen of this species. The other two insects were found in marshy situations in localities far remote from fir trees. The first of these Mr. Waterhouse distinguished from S. discoideus by its somewhat smaller size; less ample, and posteriorly somewhat acuminated elytra; the more dense and fine puncturing of the under parts; the constantly uniform testaceous colour of the legs, the shorter and more inflated form of the femora; the excessively indistinct or obsolete pectoral grove; and, lastly, by the colouring. Here the black on the elytra usually covers as much surface as the red; in most instances it completely margins each elytron, is broad at the base of the elytra, and on the suture it forms a band which is very broad anteriorly, and gradually contracted in width towards the apex of the elytra, but very commonly it is more or less expanded for a short distance near the middle of the suture. To this insect Mr. Waterhouse applied the name S. Mulsanti: it is the S. limbatus of Stephens's collection, but not of his description. Mr. Waterhouse stated that he had examined upwards of thirty specimens found at Southend, Deal, Holmbush, &c.

The third species is considerably smaller than S. discoideus, is black, with deep red elytra, and these are narrowly margined externally, and rather broadly margined at the apex, with black; along the suture is a broad (at times very broad) black band, which is pretty nearly of uniform width: it is, however, more particularly distinguished by its short convex form (the elytra being very obtusely rounded behind), and the punctuation of the elytra being stronger and more distinct, the punctures not varying in size, being less dense, and the interstices being even, not rugulose. Eleven specimens (mostly from the Hammersmith Marshes and Hornsey Fen) furnish the above characters: in all, the legs are black, and the antennæ and palpi dusky. This is the Scymnus limbatus of Kirby's MSS. and collection, and of Stephens's 'Illustrations.'

Mr. Waterhouse communicated detailed descriptions of these three species to the Meeting.

Mr. Waterhouse also exhibited three species of Bryaxis; two at least were hitherto unrecorded as British; one of the three is probably the B. assimilis of Curtis.

Bryaxis Helferi, Schmidt, &c., Pselaph. Faun. Pragen, p. 33.

——— ———, Aubé, Révision de la Famille des Psélaphiens, in the Annales de la Soc. Ent. de France, 2me sér. ii. p. 109.

——— *pulchella*, Schaum, in Germar's Zeitschrift für die Entomologie, iv. 192.

In size and colouring this species nearly resembles Bryaxis impressa of Denny, Erichs., Aubé, &c., but is readily distinguished by the comparatively large size of the central fovea on the back of the thorax, this being nearly as large as the lateral foveæ, whilst in B. impressa it is very small, as in B. Juncorum; moreover, the male sex of the present insect has the anterior trochanters armed with a spine, and the first abdominal segment has a small curved groove at the apex, enclosing a small, slightly raised area. The middle tibia has a distinct spine at the apex in the same sex. Usually the red of the elytra is darker than in B. impressa.

On the Continent this species is said to be found in the neighbourhood of salt or brackish water, and such was the case with most of his specimens, these being taken at Sheppey, Southend and Gravesend, but it does not confine itself to such situations, since Mr. W. found a specimen at Hawkhurst, in Kent, and a second in the Crystal Palace.

B. Lefebvrii, Aubé, Monogr. p. 28, pl. 83, f. 1? Révision, &c., p. 108?

Mr. Waterhouse has in his British collection a female Bryaxis which in size and colouring greatly resembles B. Helferi, but which is certainly distinct. He has no note of its locality. When compared with B. Helferi it differs in having the abdomen more finely and less thickly punctured, and hence this part is more glossy, and the two striolæ at the base of the first segment are much more widely separated:* the insect is furthermore narrower, and has the humeral angles of the elytra more prominent. He has in his possession a male insect, from Paris, named B. Lefebvrii, which agrees most closely with the present insect in the points just noticed, and it agrees with the characters laid down for B. Lefebvrii (including the small size of the spur to the middle tibiæ), but here he finds a small spur to the anterior tibiæ, and he could see no spur to the hind tibiæ: in the descriptions the spur is said to exist on the middle and posterior tibiæ.

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* In these insects usually may be seen three transverse depressions at the base of the abdomen, close to the edge of the elytra, and the central depression is bounded by two nearly longitudinal but slightly diverging striæ; in the male of B. Helferi the space between the striæ is very nearly equal to one-third of the width of the convex part of the abdomen; in the female it is less, since it scarcely exceeds one-fifth; whilst in the female insect which Mr. W. supposes to be that of B. Lefebvrii, the space between the striæ is decidedly more than one-third of the width of the abdomen, not including the subreflected lateral margin.

The third species belongs to the same section as B. fossulata, having the abdomen simple in both sexes; the anterior coxæ unarmed in the male, which sex is only distinguished by a small spine at the apex of the intermediate tibiæ; the three foveæ on the thorax nearly equal. In size it is equal to B. sanguinea, and its antennæ are as long as in the female of that insect, and hence longer than in B. fossulata: its colour is rufo-piceous; the elytra red, with the margins dusky; the legs fusco-testaceous. This species being apparently undescribed, the name Bryaxis simplex was proposed for it. A detailed description was communicated to the Meeting.

Lastly, Mr. Waterhouse called attention to a fine species of Anobium which had just been found by Mr. Turner in the neighbourhood of London: this would most probably prove to be the A. denticolle of Panzer; but the only specimens Mr. W. had had an opportunity of examining were two in Mr. Stephens's collection, one in very bad condition. Mr. Turner's insect differed from these in being very much larger, and apparently rather broader, being very nearly as large as A. tessellatum; its scutellum was apparently broader, and of a truly quadrate form.

Mr. Waterhouse also read the following

Note on the British Species of Clambus.

"The species of Clambus described in the second volume of Stephens's 'Illustrations' are:—

"1. *Clambus Armadillus.* The description appears to me to belong to Agathidium minutum of Sturm (= Clambus minutus, *Fairm. et Lab.* = C. Armadillus, *Redt.*), but C. Armadillus of Stephens's collection is identical with C. Armadillo of Fairm., and it is from this latter insect I have no doubt that the figure in the 'Illustrations' is taken.

"2. *Clambus coccinelloides* (Kirby MSS.) is represented in Stephens's collection by a specimen of Chætarthria seminulum. 'I possess a single example of this insect, which was kindly given me by the Rev. W. Kirby,' &c. (see Steph. Illustr. ii. p. 184).

"3. *C. Enshamensis,* Steph. Illustr. and Collection. This is identified (and, as it appears to me, correctly) with Scaphidium dubium of Marsham (Ent. Brit. p. 234) by Mr. Wollaston: it is the Calyptomerus dubius of Wollaston's 'Catalogue of the Coleopterous Insects of Madeira,' C. Enshamensis of Jacquelin Duval's 'Genera des Coléoptères d'Europe,' and Comazus Enshamensis of Fairm. et Laboulb. Notwithstanding that there are certain discrepancies, when the characters laid down by Redtenbacher for his genus Calyptomerus are compared with those which are displayed by Clambus Enshamensis of Stephens, it has been supposed that they were really taken from the same insect. We are informed, however, in the Berlin Ent. Zeit. 1857, p. 174, that Calyptomerus alpestris of Redt. (the only known species of the genus) is a much larger insect than Clambus Enshamensis; and in Dr. Schaum's 'Catalogue,' 1859, p. 37, we find the two genera given as distinct, Fairmaire's genus Comazus being used for our British insect.

"In the fifth volume of the 'Illustrations' Stephens adds two other species of Clambus to our list, *viz.*:—

"*C. nigriclavis*, Rudd, MSS. (represented by a single specimen in the collection), which is the C. minutus, *Sturm.*, *Fairm.*, *&c.* = C. Armadillus, ***Redt.***

"*C. nitidus.* I find no specimen bearing this name in the collection, and from the extremely brief description I am unable clearly to identify the species.

"Lastly, Stephens describes two species of the present genus amongst the species of Agathidum, *viz.*, A. minutum = A. minutum, ***Sturm.***; and A. nanum = Clambus Armadillus, ***Fairmaire***, *&c.*

"Of the genus Clambus, as now restricted, I have met with three species pretty plentifully in the vicinity of London: I have seen no other British species. They are:—

"1. *Clambus minutus* (Agathidium minutum), Sturm. This is the largest of our species, and is readily distinguished by an almost total absence of pubescence on the upper parts; hence it appears much more glossy; its colour is pitchy black: the thorax is margined with rufo-testaceous, narrowly before and behind, but considerably extended on the sides of the thorax: the elytra very commonly have a bright rufous spot on the disk. The legs and antennæ are pale testaceous.

"2. *C. Armadillus*, DeGeer, Fairm. et Lab. Black; clothed (not very densely) with longish pale hairs; sides of the thorax very narrowly and indistinctly edged with testaceous; body beneath entirely black; antennæ and legs more or less dusky; the tarsi pale.

"3. *C. pubescens*, Redtenbacher. This is the smallest of the three species: it is distinguished by the upper parts being densely clothed with pale ashy pubescence (hence the insect has a somewhat dull appearance); the colour is black, but the apex of the elytra and the abdomen are more or less pitchy; the pale colour on the sides of the thorax is more extended than in the preceding species, and the legs are entirely of a very pale testaceous colour; the antennæ are also pale, with the exception of the club, which is somewhat tinted with brown.

"The form of the head likewise differs in these insects; and with regard to the last-mentioned species, I would call attention to the larger size of the eye, when compared with the preceding: here it occupies nearly the whole of the lateral lobe of the head, which is marked off by the antennal notch."

The following papers were read:—

"On the Geographical Distribution of the Family Zygænides," by Mr. W. F. Kirby.

"A Monograph of Pronophila, a Genus of the Diurnal Lepidoptera," by Mr. W. C. Hewitson.

"Descriptions of new Species of Aculeate Hymenoptera collected at Panama by R. W. Stretch, Esq.; with a List of the described Species, and the various Localities where they have previously occurred," by Mr. Frederick Smith.

Part 8 of the current volume of the 'Transactions,' recently published, was on the table.—*E. S.*

Now published, in 8vo, pp. 54, price 1s. 6d.,

NATURAL SELECTION NOT INCONSISTENT WITH NATURAL THEOLOGY: A FREE EXAMINATION of Darwin's Treatise on the Origin of Species, and of its American Reviewers. By ASA GRAY, M.D., Fisher Professor of Natural History in Harvard University.

London: TRUBNER & Co., 60, Paternoster Row.

LIBRARY OF BOTANICAL, ENTOMOLOGICAL, GEOLOGICAL AND VETERINARY WORKS OF THE LATE BRACY CLARK, ESQ.

MR. J. C. STEVENS begs to announce that he has received instructions to dispose of, about the middle of April next, the small Library of Books formed by the late Bracy Clark, Esq., consisting principally of Entomological and Veterinary Works, some of which are of great interest and rarity, as the 'Herbarium Amboinense,' Parkinson's 'Herbal,' Gerarde's 'Herbal,' 'Transactions of the Geological Society,' and a complete set of the Works of the Palæontographical Society, of the 'Zoologist,' First Series of the 'Phytologist,' &c., &c. Catalogues are preparing.

38, King Street, Covent Garden, March 20.

TO OOLOGISTS AND ORNITHOLOGISTS.

MR. J. C. STEVENS begs to announce that he has received instructions to Sell by Auction, at his Great Room, 38, King Street, Covent Garden, on Tuesday, April 23rd, at half-past 12 precisely, the SUPERB and UNIQUE COLLECTION of BRITISH BIRDS' EGGS belonging to the Museum of a late celebrated Physician; amongst which will be found the only specimen known of the Swallowtailed Kite, from Mariposa: the Golden Eagles, and nearly all the Raptores, were taken on the Isle of Arran, and constitute a large and valuable British series: likewise the Eggs of the Brambling, from Mr. Dashwood's garden at Beccles, the only instance on record of its breeding in England; one of which is figured in Hewitson: also an undoubted specimen of the Greenland Falcon. The whole Collection is most valuable, and is unrivalled for the authenticity, the labour and care which its owner had bestowed upon it. The majority were taken in his own presence, except a few from Wolley and from Thieneman.—Also the whole of the very EXTENSIVE COLLECTION of BRITISH and FOREIGN BIRD-SKINS, many of them beautifully stuffed to lie in drawers. The Raptores are particularly fine, and are very extensive.

Catalogues are preparing, and will be ready ten days before the Sale.

TO NATURALISTS.

MR. RIPPON, of Reading, a gentleman who is deeply attached to the study of Natural History and a great lover of Nature, and has been some years a Collector in this country, is very desirous of proceeding out to the Andes of South America, to collect Natural-History specimens; and not having sufficient means of his own, is anxious to raise £200 for the purpose, to be repaid by specimens.

Gentlemen who would kindly assist in the undertaking, please send their subscriptions to Mr. Samuel Stevens, Natural-History Agent, 24, Bloomsbury Street, London, W.C.

Mr. RIPPON intends to devote the whole of his time in collecting Insects, Shells, Birds' and Animals' Skins, Reptiles, and also living and dried Plants, should Subscribers desire them. He will leave as soon as the required amount is obtained.

The following gentlemen have already kindly put down their names:—

	£
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J. H. Gurney, Esq., for Birds	10
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H. T. Stainton, Esq., for Micro-Lepidoptera	10
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PRICED LIST OF EUROPEAN LEPIDOPTERA.—I have just received a new and very complete Edition of Herrick-Schæffer's Priced List of European Lepidoptera. Price 10*d.*, post free.

EDWARD NEWMAN, 9, Devonshire Street, Bishopsgate.

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DOUBLE NUMBER.

Owing to the immense quantity of contributions with which I have been favoured, and the length to which my Collected Observations on Birds' Nests has extended, it will be absolutely necessary to publish a Double Number, price Two Shillings, on the 1st of May. Prepaid subscribers receive it at the usual price.—*E. N.*

Price Sevenpence, post free,

SUGGESTIONS for FORMING COLLECTIONS of BIRDS' EGGS.—These 'Suggestions' are from the pen of Mr. Newton, than whom no one was ever better qualified for the task. The first object is to identify the egg, to be quite sure to what bird it belongs. Mr. Newton justly considers that an egg wrongly named is worse than no specimen at all. As soon as the egg is positively identified the next object is to authenticate it, by attaching such a mark as can neither be removed nor obliterated. Then follows a full and most minute description of the mode of blowing eggs, with figures of all the instruments necessary to be used: it is expressly explained that no hole should be visible, and it is also explained how to avoid this: on no account whatever should there be a hole at either end, and there should be but one hole. The difficulty of removing the contents from eggs that have been sat on and nearly hatched is entirely overcome; and the proper instruments to use are not only described but figured, and the requisite information is given where they may be obtained. Finally, we are shown how to strengthen the shell of delicate eggs before drilling the hole through which their contents are to be emptied.

E. Newman, 9, Devonshire Street, Bishopsgate, London, N.E.

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